

## INSIDE DOPE

by GEORGE F. TAUBENECK

## Story of the Week

## Keynes Said It

The Principles of Free Speech:  
Judge Medina's Definition  
An American Philosopher  
Thinks Out Loud

Let's Get Going!  
Are We Men or Mice?  
Lagnippe

## Story of the Week

At the turn of the twentieth century, Mrs. Potter Palmer was Chicago's stuffiest social leader. In her heyday she invited the brilliant Polish pianist, Paderewski, to entertain at an afternoon tea in her ornate North Shore palace.

He accepted—for a stiff fee—and while he was pounding out a Grieg concerto one of the guests whispered to Mrs. Palmer: "Who was the composer of that brilliant *tour-de-force*?"

Obligingly Mrs. Palmer passed on that query (in a loud voice) to Paderewski. Resenting the interruption, Paderewski spat out: "Grieg."

"It's Greek music," Mrs. Potter Palmer confided to her inquisitory guest.

## Keynes Said It

After a certain point has been reached, the higher the tax, the less it yields. This principle was stated well by the British economist, Lord John Maynard Keynes, whose views have influenced the conduct of the federal government since early in the first Roosevelt administration. Keynes often was wrong, but not when he wrote:

"Nor should the argument seem strange that taxation may be so high as to defeat its object, and that, given sufficient time to gather the fruits, a reduction of taxation will run a better chance than an increase of balancing the budget. For to take the opposite view is to resemble a manufacturer, who running at a loss, decides to raise his price, and when his declining sales increase the loss, wrapping himself in the rectitude of plain arithmetic, decides that prudence requires him to raise the price still more, and who, when at last his account is balanced with naught on both sides, is still found righteously declaring that it would have been the act of a gambler to reduce the price when you were already taking a loss."

### The Principles of Free Speech: Judge Medina's Definition

The principles governing free speech, as outlined by U. S. Judge Harold Medina to the jury which convicted the 11 Communist leaders in New York, are well worth remembering . . . and memorizing.

"These defendants," he dictated, "had the right to advocate by peaceful and lawful means any and all changes in the laws and in the Constitution; they had the right to criticize the President of the United States and the Congress; they had the right to assert that World War II, prior to the invasion of Russia by Germany was an unjust war, an imperialist war and that upon such invasion it became a just war worthy of all material and moral support; and they had the right publicly to express these views orally and in writing."

"They had the right thus to assert that what they call the democracy of Russia is superior in all respects to American democracy. They had a right thus to assert that the Marshall Plan was a mistake, that billions of dollars should be loaned to Russia and that legislation adversely affecting Communists should not be passed."

"Whether you or I or anyone else likes or dislikes such or similar and analogous views . . . is . . . not entitled to the slightest consideration in deciding this case."

"Unless a minority had a right to express and to advocate its views, the democratic process as we understand it here in America would cease to exist."

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## 5 Producers Show Lines for 1950

### Frigidaire Bows Commercial, Household Lines

DAYTON—New styling, improved engineering design, and an array of new features have been incorporated into new 1950 Frigidaire household refrigerators, electric ranges, food freezers, and commercial refrigeration and air conditioning products, the Frigidaire division, General Motors Corp. announced recently.

The new lines were displayed for the first time at the national distributors meeting held here early this month for 300 company field men.

Highlights of the showing were lines of 12 refrigerator models and nine range models. The latter included a new series of 30-in. wide ranges that feature full size ovens and price tags of less than \$200.

In the 1950 refrigerator line, three types of refrigeration are available in four different series and 10 sizes, including Imperial, Deluxe, Master, and Standard models, ranging from 4 to 17-cu. ft. capacity.

Two Deluxe refrigerators with ice-blue and gold interior trim are re-

### ASHVE Prepares For Dallas Meeting

DALLAS, Tex. — Twelve technical papers, including two on the heat pump and one on panel cooling, are scheduled for presentation at the fifty-sixth annual meeting of the American Society of Heating and Ventilating Engineers to be held here Jan. 23 through 26.

Running simultaneously here will be the Southwest Air Conditioning Exposition, where nearly 200 firms are planning to exhibit their products in the Hall of Agriculture and the Poultry Bldg. at State Fair Park. The show opens Monday, Jan. 23, and runs through Friday, Jan. 27.

Society headquarters will be established at the Baker hotel and some of the meetings will be held there. Many sessions, however, will be staged in the Hotel Adolphus, which is across the corner from the Baker.

There will be preliminary meetings and registration on Sunday, Jan. 22.

### December Air Conditioning Sales Boom

## Contractor Who 'Asks for' Orders Is Surprised at Results

PITTSBURGH—Sparked with the idea of asking for the order, Pittsburgh Case Sales Co. here found that this "new sensation" really pays off.

More air conditioning equipment was sold in December than in any month of the year, and December usually is the lowest month in sales.

"While it has been somewhat of a new sensation to ask for orders and even to have to press for orders, the results prove that orders are still available to the fellow who is willing to extend himself a little bit more," contends Walter R. Brown, general manager of the firm which distributes commercial equipment as well as air conditioning.

"The little extra effort really pays off. The December record was due entirely to the decision to press for business instead of letting it de-

### Full-Length Doors Included on All Models by Admiral

CHICAGO—Seven new 1950 "Master" and "Deluxe" refrigerators with full-length doors and full-width freezing compartments, priced from \$189.95 to \$339.95, were introduced by Admiral Corp. at its national sales convention in the Drake hotel here.

Admiral also presented a new six-model range line, priced from \$149.95 to \$349.95, to what it said was "the largest gathering of dealers and distributors in the history of the company." Shown, too, were improved "Dual-Temp" refrigerator models, retailing for \$399.95 and \$449.95.

Addressing the group, President Ross D. Siragusa said the sales campaign of these units and the company's new television line would be

### New 12-Cu. Ft. Chest, Upright Freezers Offered at Amana

CHICAGO—Addition of two new 12-cu. ft. home freezers, one chest type and one upright, to its line was revealed by Amana Refrigeration, Inc., at its annual distributor meeting at the Sheraton hotel, Jan. 8.

The distributors were also told that the company has scheduled a continuing advertising campaign in leading consumer magazines, is preparing an intensified trade advertising campaign, and is expanding its home economics program.

In addition, they learned that Amana is enlarging its sales promotion program. This program includes, in part, a new dealer easel which tells the Amana story and a use-the-user plan involving premiums.

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### Annual RSES Meeting Set For Long Beach In Nov.

CHICAGO — Thirteenth annual meeting of the Refrigeration Service Engineers Society will be held at Long Beach, Calif., Nov. 16 through 19, 1950, it was announced by RSES headquarters here last week.

### Record Variety Featured In Norge Showing

CHICAGO — Norge introduced the most complete line of appliances in its history at the Winter marts here, topped by a seven-model line of newly styled refrigerators marked by a number of improved convenience features.

The balance of the Norge product lineup includes seven new electric ranges, eight new gas ranges, three standard washers, a new double-capacity automatic washer, one upright and three new chest-type home freezers, four home heaters, gas and electric water heaters, and a conventional and portable water cooler.

The seven new refrigerator models are in three series, the 65, the 85, and the 105 series. All three series contain "Self-D-Froster" models. All were designed by the W. B. Ford Design Corp., which has won acclaim in recent years for its design developments.

Exteriors of the new Norge refrigerators have been given an entirely "new look." The Self-D-Froster clock is entirely new in design, with narrow

(Concluded on Page 35, Column 3)

### Big Promotion To Support Carrier's 47 New Models

CHICAGO—Anticipating the start of a new period of growth in the air conditioning and refrigeration industry, Carrier Corp. has announced that its 1950 line of dealer equipment would be the most comprehensive in the history of the corporation.

Forty-seven new models are included, of which 27 are units of types and sizes not previously offered by Carrier. Other new models have been completely redesigned and restyled to improve quality, efficiency, and appearance.

New among the many products in the line are cooling towers in four models, display cases in six models, and hermetic condensing units in five

(Concluded on Page 4, Column 1)

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200 Exhibitors  
Registered for  
SW Exposition

Many New Products To Bow  
At Dallas Air Conditioning  
Exposition Jan. 23-27

DALLAS, Tex.—Several new products will make their bow to the trade when the doors of the Southwest Air Conditioning Exposition are thrown open here at 2 p.m. next Monday, Jan. 23.

Sponsored by the American Society of Heating & Ventilating Engineers, which will hold its 56th annual meeting at the Baker and Adolphus hotels the same week, the exposition will be staged in the Hall of Agriculture and Poultry building at Fair Park here.

Some 200 exhibitors representing all phases of the air conditioning, heating, and ventilating industry have taken all the available space at the show. These include manufacturers of complete package systems as well as components and materials of many types.

After the 2 p.m. opening on Jan. 23, the exposition will be open daily through Friday, Jan. 27, from noon to 10 p.m. The public will not be admitted, but all persons in any way connected with the industry need fill out only a simple registration form for admission. There is no charge.

There will be a considerable number of firms exhibiting cooling equipment since the area represents an excellent market for air conditioning, but there will be special emphasis on the gas appliances at the exposition because this is natural gas territory, points out the exposition management.

A few of the manufacturers who will exhibit have revealed their plans.

(Concluded on Page 2, Column 1)

### N. Y. Law Requires Water Recirculation

NEW YORK CITY—New air conditioning and refrigeration units installed in this city and using water at the rate of six to 50 gals. per minute must use recirculated water, the city commissioner of water supply, gas, and electricity announced recently.

The commissioner, Stephen J. Carney, also said that by May 1, all units using more than six gals. of water per minute must employ recirculated water. If they fail to comply and a water shortage exists, their supply of water may be cut off, he said.

Prior to the introduction of these regulations, the city had required only units using more than 50 g.p.m. to use recirculated water.

About 4,000 of the city's estimated 8,000 air conditioning units—particularly those ranging from 3 to 25 tons

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### Heat Pump Conference On Sales Opens Jan. 19

JACKSONVILLE, Fla. — A heat pump sales conference, that will feature 10 different speakers familiar with the subject and an inspection of 80 heat pump installations in Jacksonville, will be held in the George Washington hotel here on Jan. 19 and 20.

Representatives from utilities, a manufacturer, and a distributor of heat pumps will be on the speaker's rostrum. The program for the event lists the following topics and speakers:

Research on heat sources by S. L. Pappas, research engineer for the Southern Research Institute, Birmingham, Ala.

Why power utilities are interested in heat pumps by E. C. Easter, chairman of the heat pump steering committee and vice president of the Alabama Power Co.

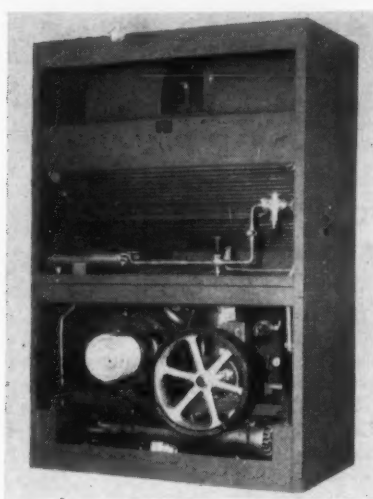
Research development of heat pumps by F. R. O'Brien, assistant director of the Southern Research Institute.

Progress of the heat pump in the

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## What Will Be Shown at Dallas Air Conditioning Exposition--



New Typhoon package unit.

(Concluded from page 1)

Typhoon Air Conditioning Co., Inc., for example, announces that the featured product at its booth will be the new 15-20 ton package air conditioner which it displayed for the first time at the All-Industry Show in Atlantic City last November.

Chain stores, theaters, large indoor arenas, or similar spaces are logical prospects for such a unit, which is equipped with a special plenum chamber permitting from one to four-way discharge without the use of ducts, believes James F. Dailey, Typhoon president.

Ducts can be connected to top or back, if desired, and with horizontal discharge, ceiling height of 8 ft. will clear the unit, he says.

Another new product to be featured is the Ice-Cel, which will be on display in the booth of Dole Refrigerating Co. This is a latent-heat type of unit for air conditioning in which ice is built up on coils in a water tank to furnish additional cooling capacity under peak-load conditions. These are available in standard sizes for commercial and residential applications, but for larger installations the tank itself can be built on the job from Dole blueprints.

Dole sees numerous possibilities for its use, not only in new installa-

tions but for "rejuvenating" existing systems.

Representative models of Frigidaire's broad line of air conditioning will be on view at that company's booth, including an operating cut-away model of an electric dehumidifier.

Other products to be shown here include 1/2 and 1-hp. window-type room conditioners; a remote floor-type room conditioner; 3, 5, and 10-ton units; reciprocating compressors ranging in capacity from 1 to 10 hp.; Multipath cooling coils; and an operating bottle-type water cooler.

Automatic Products Co., manufacturer of controls, will be displaying products in three categories—refrigeration and air conditioning, oil heating, and gas heating.

For the latter application will be its new model 54 Gasapack control for gas space heaters and furnaces. This model has a built-in pressure regulator, built-in pilot filter, built-in A & B valves, and built-in "100% safe-lighting" automatic safety pilot. Also new will be A-P's model 173 Thermo-Hydraulic gas valve.

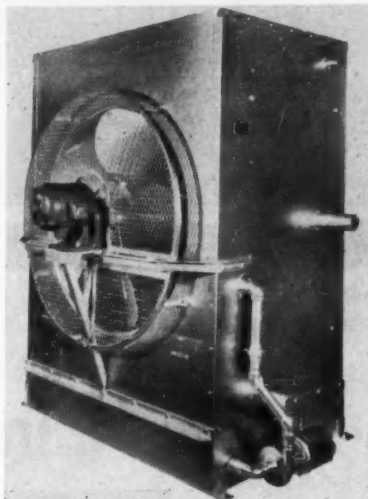
### CONTROL SHUTS OFF, IGNITES

In the oil control group the feature attraction will be the first showing of the "three-stage electric top" and "electric ignition" unit which is said to completely shut off and then ignite a pot-type burner through thermostatic control.

The firm's newest air conditioning expansion valve, model 216, will be featured in the refrigeration control group, along with numerous other items.

On display at the booth of Baltimore Aircoil Co., Inc., will be the company's new model CPE No. 50 evaporative condenser with a direct-driven fan and the model U No. 50 evaporative condenser. The new UL line of evaporative condensers extending from 105 to 210 tons in a single unit, will also be announced, according to John Engalitcheff, Jr., president.

A new compact induced draft cooling tower priced to retail at \$165 f.o.b. the factory, will be featured by E. D. Goodfellow Co., Inc., which recently moved into its own building in Memphis, Tenn. The firm, which



New Baltimore Aircoil "CPE" condenser.

manufactures cooling towers in sizes from 3 to 50 tons, will exhibit some of these besides the new one at its booth, indicated E. D. Goodfellow, who heads the firm.

Several other types of products will be on display in the various booths at the exposition, including a portable evaporative cooler, mounted on ball-bearing casters so it can be moved from room to room. This unit is said to hold 11 gals. of water and move 1,800 c.f.m. It is finished to harmonize with conventional room furnishings.

In the same extensive display is an exhaustor type window cooler, which does not interfere with the opening and closing of windows, has a baked ivory enamel finish, and two-speed blower drive.

Another innovation is an adapter for one type of window cooler, permitting it to be installed on the outside of the building, with only the electrical lead extending into the room to the nearest receptacle. This avoids the box-like housing extending into the room, but affords the same cooling effect as does the more conventional type, it is claimed.

Another display of commercial refrigeration and air conditioning equipment will include a duplicate of

water defrost low-temperature coil that is being used in "the world's largest refrigerated warehouse" in Dallas, as well as evaporative condensers and cooling towers featuring the dry fan principle, in which the blower is located on the inlet side of the apparatus, and therefore is free from the rust-promoting influence of moist air on the exhaust side, where fans are sometimes located.

A controlled humidity method of air conditioning to be shown for the first time uses a liquid absorbent known by the trade name "Hygrol." Another type of evaporative cooler utilizes a special control valve which automatically regulates evaporation through atmospheric control.

Compressor units having natural gas engine drives are being shown for the first time at one of the booths. For operation on natural gas fuel it is claimed that operating costs less than one third of those ordinarily expected may be attained.

A special safety feature has been introduced by a manufacturer of gas-fired furnaces in the form of a cross-pilot equipped with a thermocouple. This device admits no gas to the burner unless the pilot is burning across its full width. Another innovation in the same display is a forced air furnace for the small home market which is only 14 in. wide and 28 in. deep.

Filtering equipment will be shown in great variety at the exposition, for application in industrial ventilation, commercial air conditioning, and air filtration for homes. One line of commercial and industrial precipitators is built in completely packaged units, ready for immediate installation. This line of equipment is now available for the first time with an in-built automatic water washing system. Another exhibitor will introduce a multi-velocity air filter, which applies a new concept of the requirements.

Ducts, diffusers, and registers will also be exhibited in great variety by specialists in their respective fields. In one case, diffusers are manufactured with built-in vanes which are capable of being assembled in a variety of arrangements to suit different conditions, thus giving the installation practically a tailor-made effect.

### UNIT CURBS SCHOOL BACTERIA

In another instance a manufacturer of registers to suit all manner of requirements has added a line of humidifiers featuring an automatic snap-action valve. In a third exhibit in this group a manufacturer specializing in school house heating and ventilating units has added a new unit for corridor installation, featuring a new method for bacteria control.

One of the features that will be stressed by a number of exhibitors is reduction of weight in duct installations. Aluminum foil offers this advantage in the reflective type of insulation for ducts and radiator enclosures. Aluminum duct sections, diffusers, grilles, vents, hoods, furnace casings, coils, and other fabricated parts, afford the same advantage from the structural point of view.

Thermal insulation and acoustical duct liners of fine textile glass fibers also offer the advantage of low weight along with low installation cost. Thermopane insulating glass, heat absorbing plate glass and Golden plate glass to reduce fading from sunlight will be demonstrated by means of scale models of stores.

Clearview glass Venetian windows and outside Venetian blinds are offered as an adjunct to lighten the summer cooling load. The outside Venetian blinds in many instances reduce room temperature as much as 10 to 15°, according to tests and demonstrations to be given.

There will be a large section of exhibits devoted to appliances and equipment especially designed to facilitate the installation of air conditioning equipment. Examples: A new reciprocating saw for use in "roughing in" warm air heating, air conditioning, plumbing, and electrical work. A brand new pipe and rigid conduit bender for diameters up to 5 in.; a portable copper tube bender for 1 and 2-in. diameters, which makes 90° bends in about one minute on unfilled cold tubing.

## York 'Atmostat' Removes Humidity Without Cooling Air Below Comfort Level

YORK, Pa.—An "atmostat" that supplies additional air drying capacity during humid weather without lowering the temperature of the conditioned air to below the comfort level is being placed on Yorkaire models 352 and 552 this year, the York Corp. announced recently.

York engineers explained that packaged air conditioning units are designed to cool and dehumidify the atmosphere at a fixed ratio. This, they said, worked ideally under normal conditions.

But, when the weather was uncomfortably humid, packaged air conditioners must chill the air excessively to wring out excess moisture.

With the invention of the atmostat, they claim, it is now possible to balance the atmosphere with a packaged unit. Such control had only been supplied with central station units in the past, they said.

The engineers declared that the new air wringer v-coil on the York packaged units makes the operation of the atmostat possible. Under normal conditions, refrigerant flows through both sides of the v-coil.

However, under muggy abnormal conditions, all that is necessary to retain ideal atmospheric conditions is to flip the atmostat switch. The refrigerant is then diverted to one side of the coil where it is concentrated on removing the excess moisture from the air without reducing temperature below the comfort level.

### Howlett Heads Flint Wesco

FLINT, Mich.—W. L. Howlett of Cleveland has been named manager of the Westinghouse Electric Supply Co., succeeding Frederick N. Wyatt, who retired Jan. 1.

## QUIET KOOL ROOM AIR CONDITIONERS

give you all these quality features in one compact unit...



Model G-7  
QUIET KOOL  
3/4 H. P. Room  
Air Conditioner

### FOR LESS MONEY!

- **NEW! 3/4 H.P. QUIET KOOL ROOM AIR CONDITIONER**
- **NEW! 1/2 H.P. QUIET KOOL ROOM AIR CONDITIONER**

Be Sure to see the...

**NEW QUIET KOOL ROOM AIR CONDITIONERS**  
at the Southwest Air Conditioning Exposition  
January 23-27 **BOOTH 816**

Quiet-Heat Products incorporate top quality with top performance at the lowest prices.

Send for Complete Details, Literature, and Price Lists.

### QUIET-HEET MFG. CORP.

135 New Jersey Railroad Ave., Newark 5, New Jersey

World's Largest Manufacturers of Oil Burners

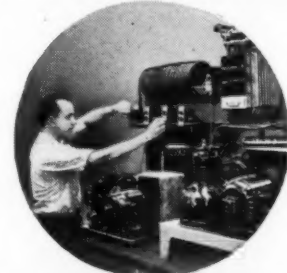
- EXCEPTIONALLY QUIET IN OPERATION
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- MAXIMUM COOLING CAPACITY
- SINGLE SLOW SPEED FAN MOTOR
- AIR DELIVERY ADJUSTABLE
- CLEANS THE AIR OF DUST, DIRT AND POLLEN
- FILTER CHANGED BY LIFTING COVER
- ALL CONTROLS & GRILLES AT FRONT
- ATTRACTIVELY DESIGNED, BROWN OR IVORY FINISH
- TROUBLE-FREE, LONG LIFE SERVICE
- EASY TO INSTALL, JUST PLUGS IN
- AUTOMATIC TEMPERATURE CONTROL AVAILABLE (Both Models)

Other Products Engineered and Manufactured by QUIET-HEET MFG. CO.

- WINDOW FANS • DEHUMIDIFIERS
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### Train here for These Growing Fields

- **AIR CONDITIONING • HEATING**
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Military, Academic or Practical Training is evaluated for advanced credit. Preparatory courses are also available. Faculty of 85 specialists. 1555 currently enrolled from 48 states and 23 foreign countries. Over 35,000 alumni. Terms open April, July, Oct., Jan.

In 6 to 24 months you can be equipped for expanded opportunities in these fascinating fields. This 47-year-old, nonprofit technical school offers world-famous training programs. Experts from industry cooperate with faculty of specialists to keep courses geared to latest developments. Laboratories and shops are well-equipped. Specialized technical training is coupled with solid education in basic sciences and related arts. You pass step-by-step to certificates of "Refrigeration Serviceman" in 6 months—"Refrigeration and Heating Serviceman" 6 months later—and "Refrigeration, Heating and Air Conditioning Technician" in 12 additional months.



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Founded 1903 by Oscar Werwath

Write for free 110-page catalog and 48-page pictorial booklet, "Your Career."

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# For Dealers Who Want A Sure Winner In 1950!

... TERRITORIES ARE NOW AVAILABLE  
FOR THE NEW FREEZ-PAK ...

... THE SMALL REFRIGERATOR  
WITH A BIG SALES FUTURE FOR YOU!

The IONIA MANUFACTURING COMPANY of IONIA, MICHIGAN is now geared for quantity production of FREEZ-PAK refrigerators. Dealers with aggressive specialty selling organizations will recognize the extra profits possible by adding FREEZ-PAK to their present lines.



STORAGE CAPACITY  
2.66 cu. ft.

OVER-ALL DIMENSIONS  
OF CABINET

31" wide - 19" deep - 25" high

WEIGHT  
125 lbs.

FINISH  
Black or Ivory

REFRIGERANT  
"Freon-12"

UNIT  
TECUMSEH HERMETIC

OUTLET  
115 volt, 60 cycle AC

FREEZING COMPARTMENT  
10 ice trays or 12 lbs. ice

**Let's add up these plus features that make FREEZ-PAK a profitable item for YOU, Mr. Dealer.**

## THE PRODUCT:

FREEZ-PAK has an all steel cabinet, permanently welded at all joints. Bonderized and beautifully finished with double baked-on enamel. 2" fibre glass insulation. Doors have quiet, easy-acting latches. Balloon type live rubber door seal. Smooth and attractive Panelyte door panels and breaker trim. Ranco temperature control.

Colors available: Ebony black exterior with a light pastel green interior, black door panels and breaker trim and chrome plated hardware. Ivory exterior and interior, black door panels and breaker trim and chrome plated hardware.

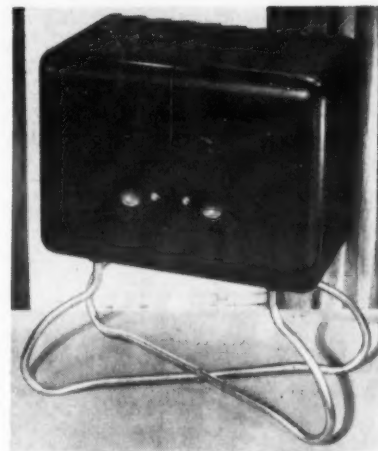
FREEZ-PAK provides full range food keeping with ideal temperature and moisture conditions to protect all types of perishable food plus a freezing compartment with abundant space for frozen food storage and ice cube capacity. Suggested retail price \$159.95, dealer price: \$100 plus tax.

## THE MARKET:

New markets for the FREEZ-PAK are being discovered every day! FREEZ-PAK is ideal for recreation rooms, offices, motels, trailers, summer cottages or cabins, doctor's and dentist's offices—in fact, any location at all where refrigeration is desired or space is limited. And—the most important feature of all—the location of the FREEZ-PAK can be changed at will.

## THE MANUFACTURER:

Ionia Manufacturing Co. has been manufacturing quality equipment since 1903. With 1 million square feet of floor space in their modern plant, they are fully prepared to produce quality merchandise at the lowest cost.



The FREEZ-PAK stand illustrated here is styled to blend with the cabinet . . . giving added beauty and utility to the FREEZ-PAK. It is made from tubular steel and chrome plated for long life. This stand is optional and can be purchased for a small additional charge—extra profits for you. Suggested retail price \$14.95, dealer price \$9.00 plus tax.

## THERE YOU HAVE IT . . .

FREEZ-PAK—a quality product, beautifully designed and expertly engineered; an established and increasing demand for the really compact refrigerator; a manufacturing reputation that insures quantity and quality production to help you realize top sales potential.

**SO, we're suggesting you act  
today to add FREEZ-PAK to your line.**

**Wire, write, or send the coupon  
below now for full information.**

THE IONIA MANUFACTURING CO.  
IONIA, MICHIGAN

Dear Sirs:

Please send me full information on the FREEZ-PAK franchise.

Name . . . . . Title . . . . .

Address . . . . .

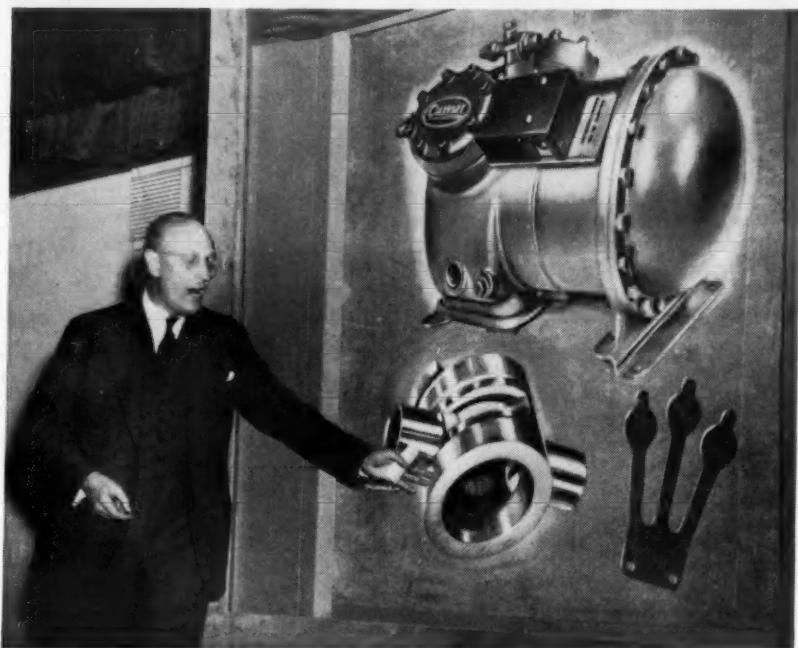
City . . . . . State . . . . .

Type of Business . . . . .

**IONIA MANUFACTURING CO.**  
**IONIA, MICHIGAN**



## Explaining Weathermaker Compressor



A. E. Meling, product manager self-contained equipment, pointing out high spots of new hermetic compressor in Carrier Weathermaker, including automatically reversible oil pump (lower left) and triple valve (lower right).

## Big Promotion Supports Carrier Line--

(Concluded from Page 1, Column 4)

The corporation announced the new line would be supported by a 50% increase in its advertising and promotion budget for dealer sales, that warehouse facilities for dealers were being expanded, and that the Carrier field organization had been enlarged by 25%. A liberalized wholesale financing program, backed by a comparable retail plan, has been instituted.

William Bynum, vice president in charge of sales, in reporting Carrier's greatest expansion of dealer products since the corporation was founded, asserted this move was made in expectation of a considerable increase in sales volume in this field.

"There appears to be no doubt that the air conditioning industry will

grow materially during the next few years," Bynum said, "and it is our belief that this will be felt in 1950 with respect to both packaged equipment and large installations."

The new line was unveiled at a four-hour stage presentation (the first of this type put on by the company) for 400 Carrier dealers and distributors in the middle West, gathered at the Knickerbocker hotel in Chicago on Jan. 11. Similar meetings will follow in Dallas, New Orleans, Atlanta, and Atlantic City.

Because of unusual features and developments, particular attention was given at the meetings to the six room air conditioner models, which have been completely redesigned. Three new sizes have been added, and the line now consists of window sill models in  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and 1-hp. capacities, and three consoles of  $\frac{3}{4}$ , 1, and

1½-hp. The largest console has a cooling capacity of 14,000 units per hour, adequate for an extra-large size room, according to the company.

For the first time, officials said, room units now will be available in a wide range of colors to harmonize with existing room shades. Colors range from pastels to heavy hues, with finishes available in flat, satin, or enamel.

Other units in Carrier's 1950 line include:

**Self-contained "Weathermakers"**—Expanded from three to five models, redesigned completely for appearance and increased efficiency. Capacities now are 3, 5, 7½, 10, and 15-hp., the largest two being the new additions to the line. New features include "better means of cooling and humidity control and unusually quiet operation," it was stated.

**Cooling towers**—A new product of "revolutionary" design, in four models, 5, 7½, 10, and 15-ton capacity. It was developed especially to conserve water use by self-contained units, or any unit with a water-cooled condenser.

### LIGHTER COOLING TOWER

The tower is operated by water turbine drive, with no wearing parts, and the fill material is a waterproof asphalt impregnated board, especially developed for the product. Carrier said an outstanding feature is that the largest unit weighs only 390 lbs., "one third as much as conventional cooling towers." It is 7 ft. high and 3 ft. square.

**System "Weathermakers"**—Five completely new models, including two additions of larger capacities to meet the trend toward large-capacity units. The Carrier range now extends from 5 to 75 tons, and only the smallest unit has been retained from the previous System Weathermaker line.

**Room "Weathermasters"**—Two new units added, in sizes equivalent to  $\frac{3}{4}$  and 1½-hp.

The room Weathermaster is a new machine for air conditioning rooms from installed refrigeration sources. It is a fan-type companion to the present Conduit Weathermaster system, and is designed for certain markets where it is not practical for the Conduit System to be used.

These include such places as pent-houses, where the condensing unit, either air cooled or with cooling

tower, can be externally located on the roof; rooms with no windows or windows with special forms of frames difficult to adapt to room air conditioners; rooms in old buildings; space-limited residences where condensing units can be located externally or installed in the basement, etc.

**Food freezers**—To the two upright models of 15 and 30-cu. ft. capacity, two chest models of 9.2 cu. ft. and 12.5 cu. ft. have been added. The chest freezers are "compact," of table-top height, all-steel construction, and insulated with more than 4 in. of fiberglass.

**Refrigerator display cases**—Six models, new additions to the dealer products line, include three self-service models, each in two sizes. These are 8 and 10-cu. ft. cases for meat, dairy, and vegetable use; 8 and 12-cu. ft. for wall-type dairy cases, and 4 and 6-cu. ft. utility cases, especially for baked goods.

**Ice cube maker**—Technically improved model, available with 160-lb. or 240-lb. bin, operating on either 115 or 230-volt capacity. Feature of the machine is that cubes are individually frozen and separated from the freezing mechanism by gravity. Production of this product is being stepped up because sales have exceeded expectations, it was announced.

**Hermetic condensing units**—Five new models, with  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1, and 1½-hp. capacity, supplementing Carrier's complete line of open compressors of  $\frac{1}{4}$  to 3-hp. capacity.

**Belt-driven condensing units**—Six new models, in following horsepower capacities: 5, 7½, 10, 15, 25, and 40. **Fan and recirculating units**—Five new models, including one addition in a new size. Capacities range from 1,000 to 16,000 c.f.m.

### 3 TYPES OF COLD DIFFUSERS

The company announced that its  $\frac{1}{2}$ -hp. "Humidry" remained in the 1950 dealer equipment line, as did three basic types of cold diffusers—(1) the conventional suspended fan coil assembly for direct expansion with either ammonia or "Freon"; (2) the circular ceiling type, and (3) the wall type, designed to take only minimum space. The cold diffusers are designed to match Carrier condensing units.

In addition, the company said other products included two new reciprocating compressors of 100-hp. and 150-hp. capacity, double and triple the capacity of Carrier's largest current compressor of 50-hp. capacity; also, new models of its low temperature centrifugal refrigeration machine and its absorption refrigeration machines.

### NEW CREDIT PLANS AID SALES

Innovations in Carrier's liberalized financing program provide for seasonal wholesale and skip-payment plans, as well as year-round and retail credit plans, with credit being underwritten by the corporation.

The wholesale plan provides that sales during certain seasons may be made on 90-day retaining notes or on 90-day trade acceptance, making it possible for dealers to carry ample stocks with only nominal investment.

The skip-payment plan for dealers' customers is aimed at encouraging seasonal sales. By this plan, customers will not be faced with finance and interest charges from the date the contract is made until April 1, with Carrier absorbing all financing costs during the period.

Retail provisions of the program enable distributors and dealers to finance retail paper with the Bank of Manhattan Co. of New York by arrangement with the corporation.

The year-round wholesale plan is described as a conventional wholesale plan, with interest at 4% based on the average balance.

It was also announced that Carrier is instituting a new 90-day price protection plan and that a new plant will be built in Syracuse this year for the production of room air conditioners, self-contained equipment, food freezers, and commercial refrigeration products.

Company officials taking part in the 1950 presentations are Carl V. Spriggs, assistant general sales manager; V. S. Day, product manager for applied air conditioning equipment; A. E. Meling, product manager for self-contained equipment; W. F. Egan, product manager for room air conditioners; Frank J. Purcell, zone manager for food freezers; D. W. Hoppock, product manager for commercial refrigeration; L. M. Beals, director of advertising and sales promotion; P. K. Ray, manager of advertising and sales promotion; and J. A. Gazelle, manager of dealer sales.

## Winter Mart Briefs

(Space limitations prevent the inclusion in this issue of stories on all the new products shown in Chicago. Succeeding issues will carry those not included in this one.)

**CHICAGO**—The Presteline line of refrigerators has been expanded to 5 models, topped by a new across-the-top freezer model.

This new model, MD-9, has three zones of cold, a meat keeper, adjustable shelves, two crisper drawers with a half-bushel capacity in each, 10-stage temperature control, and a dry storage bin. It is priced at \$339.

Promotion leader in the line is the PD-9 at \$274.50. It is a 9-cu. ft. refrigerator with big U-type evaporator providing a 35-lb. frozen food chest, built-in meat keeper, 3 zones of cold, two deluxe crispers sealed in glass, and dry storage space in the base.

Companion to the MD-9 is the MD-8, an 8-cu. ft. model with two zones of cold, which sells for \$299.95. Price leader is the PM-8 at \$229.95, with U-type evaporator, meat dish and crisper, and 6-stage temperature control. The Steri-control lamp is available on all models as an accessory feature.

### Thor, Conlon Driers

New automatic electric clothes driers were shown by Thor Corp. and Conlon-Moore Corp. Price of the Thor drier is \$239.50 and of the Conlon drier, \$239.95.

Thor's drier is of the tumbler type and is described as fully automatic. It has a capacity of 8 lbs. dry weight. The cabinet measures 30 in. wide, 24½ in. deep, and 36 in. high.

The Conlon drier has a tumbler diameter of 25 in. and holds 9 lbs. dry weight, 18 lbs. wet weight. It is 36 in. high (42 in. with backguard), 30 in. long, and 26 in. deep. The heating element is rated at 4,500 watts—220 volt.

### Rainier Refrigerator

A household refrigerator without a low-temperature compartment was a crowd stopping feature in the Rainier Co. booth. Rainier introduced a full line of appliances, making its debut to the field, with the new "Crystalpoint" refrigerator as a special added item.

The Crystalpoint, developed by Willard Morrison, who developed the original Deepfreeze freezer design, provides 10 cu. ft. of storage space in an upright cabinet somewhat narrower than the conventional refrigerator.

Market for the Crystalpoint is seen in homes that may have a freezer and need new normal refrigerator facilities, on farms where large quantities of fresh fruits and vegetables are picked from gardens, in suburban homes, and in some commercial applications.

### 6 Sanitary Models

Six new 1950 refrigerators—five conventional models and an under-counter model—were brought out by Sanitary Refrigerator Co.

The Sanitary line consists of standard and deluxe models in 6 and 8-cu. ft. capacities, a 4-cu. ft. model, and a 5-cu. ft. "Lo Boy" model built to fit standard cabinetry.

Prices (f.o.b. factory) of the line are: H6SA (standard) \$169.95, H6DA (deluxe) \$199.95, H8SA (standard) \$199.95, H8DA (deluxe) \$239.95, H4SA (standard) \$159.95, and "Lo Boy" \$174.95.

### Ben-Hur Model Bows

Ben-Hur claims that its new 8-cu. ft. refrigerator fits into the floor space of an old-style 6-cu. ft. model. Features include a full-width freezer compartment holding up to 42 lbs. of frozen foods and containing two ice trays, Fiberglas insulation, "balloon" rubber-gasketed door, full-width crisper, 16.3 sq. ft. shelf area, du Pont Dulux finish, and sealed unit. It is priced at \$239.50.

### Coolerator Freezer

Coolerator, which had introduced its refrigerator line last fall, brought out its new freezer with a small normal refrigerator compartment, providing a total of 18½ cu. ft. of refrigerated space (15 cu. ft. in freezer space, 3½ cu. ft. in normal refrigerator space). It will retail at \$449.95.

## ALCO'S 25<sup>th</sup> ANNIVERSARY



Our family has grown to more than 6,000 refrigerant controls.

ALCO has the right answer to every refrigerant control problem.

Write for detailed information on your intended use.

ALCO has refrigeration under control!

Designers and Manufacturers of  
Thermostatic Expansion  
Valves; Evaporator Pressure  
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**NORGE IS NEW!**

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OUTSIDE and INSIDE...  
FOR 1950**

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You are cordially invited  
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**FIFTH FLOOR**

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LAKE SHORE DRIVE, CHICAGO, ILLINOIS

REFRIGERATORS • HOME FREEZERS • ELECTRIC RANGES • GAS RANGES • ELECTRIC  
WATER HEATERS • HOME HEATERS • WATER COOLERS • HOME LAUNDRY EQUIPMENT

Norge Division, Borg-Warner Corporation, Detroit 26, Michigan  
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**SEE NORGE BEFORE YOU BUY**



## 3-Point Sales System Aimed at Average Home Pays Rich Dividends for Kitchen Specialist

CHICAGO—Developing a "three point sales system" which through one means or another is bound to appeal to every homeowner, has paid rich dividends in the form of 150 model kitchen installations a year for Borg, Inc., appliance dealership here.

Ernest Borg, head of the firm, specializes almost exclusively in kitchens from \$1,000 to \$2,000—nothing too grandiose or too "economical," as he puts it. Instead, each of his kitchens is a completely engineered, eye-appealing installation, involving four or more major appliances, overhead cabinets, cabinet sink, all woodwork, linoleum, tiling, etc.

### FAR MORE PROFITABLE

"We go for the average homeowner in specializing in the model kitchen field," Borg said, "with the result that a large percentage of them go into older homes which are already paid for, rather than into the new housing development. Concentrating on the older-home market, composed predominantly of dwellings which are already owned by their dwellers, is a far more profitable market."

Borg shows a complete model kitchen in his showroom in a Chicago residential district, which can be readily varied to fit any recommended flat price, and switched from one line of appliances to another, at various periods during the year.

Franchised with several leading lines of appliance and kitchen equipment manufacturers, Borg, Inc., can meet the specifications of most customers "on the nose" and will take the trouble to set up the kitchen as the customer wants to see it. This has resulted in a lot of "first-call sales" requiring little or no outside work.

The three-point sales program mentioned above has been built up through long practical experience. Borg feels that almost every housewife eventually wants a new "dream kitchen" of her own, and that getting a signature on a dotted line is merely a matter of aggressive presentation, promotion, and education—to teach the customer that a new kitchen is not prohibitively expensive, that it may be easily installed without "breaking up housekeeping."

The Chicago dealer's first step is a concentrated direct-mail program, consisting of 300 double-fold postcards, which are sent out the first of every month.

One-half of the postcard is devoted to advertising, with a cut of a typical Borg kitchen and full details on installation prices, the appliance brands involved, and a long list of the many kitchen accessories and basic appliances which the store carries.

An invitation at the bottom of the card points out that model kitchens can be installed at surprisingly low cost in the Chicago area, and invites the customer to tear off the second half of the card, which is a free-return postcard, if they would like a Borg representative to call.

### RETURN IS EXCELLENT

Written in a friendly, breezy style, the cards show an average return of between 2% and 5%, which Borg feels excellent in view of the "big ticket price" involved.

The second step in the sales program swings into action when the postcards are received, or when prospects telephone in, in response to newspaper advertising or telephone calls.

An expert salesman, who is adequately trained to estimate installa-

tion cost, is sent out to the home to set up a bid price, which Borg's will adhere to afterwards. In making the call, the specialty salesman is armed with two distinctly different sales tools.

One is a complete set of miniature kitchen appliances, which may be used to set up, under the homeowner's eyes, a workable model of the proposed planned kitchen. Included are some 40 model kitchen parts, all of which have been built up by Borg's from standard manufacturers' kits, to fit more specifically the typical Chicago home, flat, and apartment. Taking these along, the salesman can work out the approximate design of the kitchen for the homeowner, and allow the latter to experiment with his own ideas until a satisfactory agreement is reached.

### 'BEFORE AND AFTER'

Sales tool No. 2 is a huge album of "before and after photographs" which Borg, Inc., has built up during the past two years.

"A lot of dealers make use of the miniature-kitchen demonstration step," Borg said. "But so far, we are the only retailers in the city, we believe, who have made extensive use of photographs for the same purpose."

"In our album are photographs covering the before and after appearance of kitchens in almost every type of home or dwelling—so that instead of merely describing what can be done, we can usually find a situation similar to that confronting the homeowner, and demonstrate pictorially what we have already accomplished."

"In most cases, we find the homeowner quite enthusiastic, particularly where a 'before' picture closely resembles her own kitchen—and that immediately presenting the photo of the finished job brings an appreciative response. As a result, we invariably photograph every kitchen we install, and see to it that the photographs are shown to as many homeowners as possible."

### SECOND SALE FOLLOWUP

Step No. 3 in the Borg selling plan is a "second sale follow-up" on all Chicago homeowners who have been sold a refrigerator, a range, a cabinet sink, or some other basic, component part of a modern planned kitchen layout.

Of course, when selling the single appliance, Borg, Inc., salesmen point out that the store specializes in complete package kitchens, and do everything possible to get her to allow an estimator to visit her home at the time.

Usually, however, the customer has budgeted only enough funds for the one appliance and is inclined to shie away from model kitchen suggestions. Therefore, Borg, Inc., "lets things ride" for a period of 60 days or so after the appliance has been installed.

Meanwhile, a card has been made out, with full details of the original sale, name and address of the owner, and any pertinent remarks which could be garnered during the original sale. Then, at the end of the two-month period, a salesman follows up, asks to see whatever appliance has been sold, on the pretext of making adjustments, suggestions, etc.

Once in the kitchen, he has an excellent opportunity to size up the old kitchen and to estimate what can be done for so many dollars in modernizing it. Here, a simple refrigerator sale may be readily multiplied into a \$2,500 sale of a complete work-planned model kitchen.

### SALES POSSIBILITIES

"Every kitchen appliance sale, whether it is merely an electric garbage disposal machine, a refrigerator, or a set of kitchen cabinets, may eventually be transformed into a complete kitchen sale," it was noted, "so long as the dealer does not forget about the customer already sold a single appliance, and follows her up."

"We point out on making such calls that the entire cost of the kitchen can be paid off in monthly instalments not much larger than those initially concerned with the original appliance—and that F.H.A. terms, low-cost financing, etc., make it silly to get along with an old-fashioned sink, unattractive walls, and labor-causing layout."

## Jet-Propulsion?

## Practical Application Seen for Research In Phenomena Occurring at Absolute Zero

CHICAGO—Research in the extremely low temperatures around absolute zero (-459.6° F.) may be of little interest to the average refrigeration man, but such studies may serve practical purposes, believes Dr. Alexander Goetz.

Development of certain liquefied gases for use as fuels in rockets or turbo-jets, or perhaps the application of the super-conductivity noted in some metals near absolute zero in such devices as super-sensitive galvanometers or infrared ray meters are possible results from research of this type, he said in addressing the forty-fifth annual meeting of the American Society of Refrigerating Engineers here.

Discussing the "Last 100 Degrees of the Absolute Temperature Scale," Dr. Goetz declared that this part of the scale is "characterized by the increasing scarcity of events."

"The liquefaction of certain gases that occurs at low absolute temperatures is quite similar to that of normal refrigeration, however, but the transition from liquefying of air at low temperature to the liquefaction of hydrogen and helium is more difficult than you'd expect."

Helium, he added, can be reduced to 1° absolute, and then further reduced to within .003° of absolute zero.

This latter stage of cooling is accomplished in an interesting manner involving the usual adiabatic compression and expansion cycle, except that it's accomplished by magnetization.

A strong magnetic field compresses

the molecules, which expand when the magnetic field is removed, thus cooling the gas, Dr. Goetz further indicated.

He went on to cite some of the curious phenomena observed at these extremely low temperatures, such as the super-conductivity of metals and the gravity-defying behavior of super-cooled liquid helium.

The latter, which is 20,000 times less viscous than water at 32° F., will flow up over the side of a test tube, for example.

"This would be a marvelous toy if it weren't so expensive to produce," he commented.

At these low temperatures, too, some metals, such as lead, tin, zinc, and mercury, offer virtually no resistance to the flow of electricity.

"A current induced in a ring-shaped conductor will rotate as long as the temperature is kept below the critical point," he said, recalling also that before the war a 30-amp. electrical current was induced in a piece of metal under these conditions, which was then flown from Belgium to England, marking "the first time in history that an electric current was ever 'shipped'."

As to the possibility of changing liquid helium into the solid state, Dr. Goetz said that theoretically this could be done at a temperature of 50° A., but under a pressure of 5,000 atmospheres.

"This would be equivalent to maintaining water ice in the solid state at the temperature of the sun, but under a pressure of 500,000 atmospheres" [a mere 7,350,000 p.s.i.a.].

## Bissell Heads Promotion, Advertising for M-H

MINNEAPOLIS—Herbert D. Bissell, former general advertising manager of The Electric Auto-Lite Co., of Toledo, has been appointed executive in charge of the advertising, sales promotion, and merchandising departments of Minneapolis-Honeywell Regulator Co., Thomas McDonald, vice president in charge of sales, has announced.

Bissell, who joined Electric Auto-Lite in 1941, was graduated from Dartmouth college in 1929 and immediately joined N. W. Ayer & Son, Inc. He became account executive on the Ford Motor Co. account for the agency.

Bissell is a director of the Broadcast Measurement Bureau and a member of the Association of National Advertisers.

McDonald said that Honeywell plans to expand its promotional and advertising activities under Bissell's direction. Managers of the sales, promotion, advertising, and merchandising departments will continue in their present capacities under the new executive who will be in charge of all promotion departments of the company, including those of its various manufacturing and sales divisions.

## Hicks Refrigeration Moves To New Raleigh Quarters

RALEIGH, N. C.—Hicks Refrigeration, Inc., commercial refrigeration and air conditioning firm, has moved from 514 S. Sanders St. to new showroom and office quarters at 612 W. South St.

Paul Hicks, president, said the move was part of an expansion program set up by his company for the next few years. The new building has three times the floor space of the firm's former showroom.

## Climatic Test Rooms at Signal Laboratory Get Student Inspection

FT. MONMOUTH, N. J.—A group of Worthington Pump & Machinery Corp. air conditioning and refrigeration students recently visited the climatic test rooms at the Squier Signal Laboratories here to study Worthington equipment under unusual conditions of service.

The rooms were built during World War II to produce arctic and equatorial conditions for the testing of equipment used in those parts of the world.

Two Worthington horizontal ammonia compressors with a capacity of 45 tons at 5 p.s.i.a. and 200 p.s.i.a. and a horizontal booster with a capacity of 30 tons at 1½ p.s.i.a. and 5 p.s.i.a. are used to bring the temperatures in the Arctic test rooms down to 50° F. through -85° F. and lower.

In some of the rooms these temperatures are required to be attained in six hours, in others 12 hours.

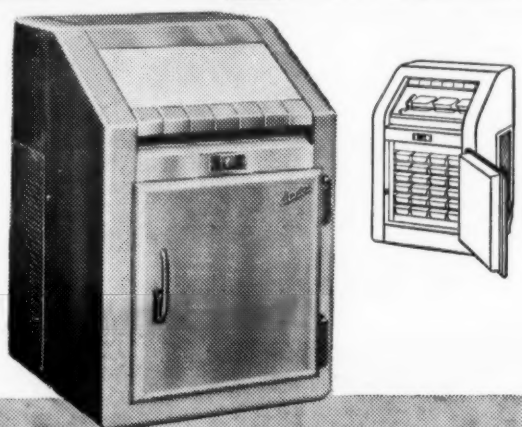
Special effort is made to reduce to a minimum the frequency of defrosting the test rooms. All the moisture above 0° F. dewpoint is removed from the air entering the test rooms. As air is pulled in from outdoors, it is chilled to 37° F., and the condensed moisture is drained.

Each room has two or more exhaust standpipes in the floor, connected to a duct that is maintained at partial vacuum. By means of these standpipes and the duct, air can be exhausted from the rooms. This permits replacement of moist air with dry air prior to pull down in temperature.

Each room has at least one observation window with six panels of glass. An observer is posted outside the window whenever the room is occupied.

The Worthington equipment was sold and installed by Arthur E. Magher Co., New York City.

## ICE CUBES by the BUSHEL!



with a **United KUBEMASTER**

... Just think a bushel of ice cubes for the price of a coke! The 24 quick-releasing aluminum trays in the KUBEMASTER discharge 336 large ice cubes per freezing and you can repeat 3 more times per day.

### LIFT-A-WAY DOOR

The KUBEMASTER has the famous United stainless steel Lift-a-Way door which smoothly slides out of sight—no chance for bruised fingers.

### HANDY TEMPERATURE CONTROL

The new exclusive dial-temp control on the United KUBEMASTER allows the user to conveniently freeze cubes according to the need.

For Complete Information Write or Phone

**UNITED REFRIGERATOR COMPANY**  
HUDSON, WISCONSIN

Before you get too far along with next year's designs, may we suggest you let us offer our ideas? When we have the opportunity to cooperate right from the start, it is surprising to note how readily problems are solved and how much lower in cost the items become.

For the lowest in cost the utmost in quality

**WALL WIRE**

PRODUCTS COMPANY, Plymouth, Mich.

## NEED COLD PLATES? Call DEAN!!!

For ice cream cabinets, locker plants, soda fountains, farm milk coolers, farm freeze cabinets, low temperature test rooms, window displays, liquid coolers. Also plates for baudelet-type coolers. Custom built plates available on special order such as cylinders, U's, angles, tanks, etc. Plates available in stainless steel and other metals.

WRITE FOR CATALOG

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PRODUCTS, INC.

1042 DEAN ST., BROOKLYN, N. Y.





## Truck Refrigeration Unit Using Gasoline Engine Adapted to Rail Freight Car Use

MINNEAPOLIS—Powered by a gasoline engine, a new railroad car mechanical refrigeration system is claimed to maintain automatically any desired temperature between -20° and 60° F.

The development can save railroads and shippers millions of dollars annually through elimination of transport spoilage, believes U. S. Thermo Control Co. here, who adapted the firm's truck and trailer refrigeration units for this railroad application.

"We hope to do for rail refrigerated transport what we have already done in the trucking field," declares J. A. Numero, president of U. S. Thermo Control.

For the first time in history, he adds, frozen foods now can be shipped at zero temperatures or lower.

In addition to refrigerating the car, the system, designated as Model RY, supplies heat to the car should outdoor temperatures fall below the desired shipping temperature, it is claimed. This is accomplished automatically by "reverse cycle" refrigeration, the company states.

### OCCUPIES ONE END OF CAR

Model RY occupies a sealed-off space of about 5 ft. at one end of the "reefer" car, and consists of two sections. One section houses a cooling coil and blower; the other includes a four-cylinder liquid-cooled gasoline engine, compressor condenser, controls, and instruments.

Each of the sections is approximately 54 in. long, 40 in. high, and 44 in. wide. The sections are divided by an insulated bulkhead and the whole unit is mounted on a frame of heavy-gauge aluminum.

A protective door covers the unit on the outside of the car. It can be raised by means of a crank and the entire unit pulled out on a sliding frame.

Cooling or heating is accomplished by forced cold or warm air through ducts which line the floor, walls, and ceiling of the car, air returning to the blower coil through a grille in the insulated bulkhead which separates the mechanical units from the car interior.

### DEFROSTING IS AUTOMATIC

Defrosting is done automatically by "reversing" the refrigerant flow briefly so that hot refrigerant flows through the cooling coil.

The unit is claimed to have sufficient cooling capacity to eliminate the need for pre-cooling meat, fruit, or vegetables before loading them into refrigerator cars, which is usually done when conventional cars are iced.

"Cars can be filled with warm carcasses at a meat packing plant and shipped. The meat will arrive at destination cooled to pre-set temperature," declares Numero. "The same goes for fruits and vegetables. Preliminary cooling won't be necessary as in the case with iced cars."

Gasoline and oil tanks on the Model RY unit are said to be large enough to carry the system across the country without refills, the only attention necessary being cursory inspection when the train stops at division points for engine changes and car checks, the company states.

The unit is said to have been tested by more than 50,000 miles of operation on railroads, including five trips in a Canadian National Railways car and nine trips in the U. S.

One of the longest trips was from Salem, Ore. to Jersey City, N. J., a 3,109-mile jaunt that required nine days. Some 67,000 lbs. of fresh frozen strawberries packed in sugar were loaded at an average of 4.7° F. and when unloaded at Jersey City, the average product temperature was -3.3° F., the manufacturer of the unit states. Outside temperatures

ranged from 32° to 90°.

In shipments like this, the unit pre-cools the car before loading.

Besides offering close control over temperature under varying conditions, the new development is claimed to have several advantages.

Its weight, which runs approximately 3,000 lbs., is said to be considerably less than ice, and the costs of operation are claimed to be less.

Elimination of icing, re-icing, and de-icing will mean substantial savings in time and man-hours, permitting faster service.

Loss claims should be eliminated.

Because no corrosive brine is used, car maintenance costs should be reduced and car life extended, the same applying to rails and bridges, which can be damaged by brine dripping, it is said.

Cost of maintaining ice tanks, valves, and hatch plugs can be eliminated.

## Bakery Case Spotted To Sell Inside, Outside the Store

HAMBURG, N. Y.—Evans Bakery here, finds that a refrigerated showcase spotted near the front of its store does an effective selling job from a display standpoint in addition to providing protection for perishable items.

The refrigerated case is set immediately inside the front window at such an angle that it can be seen equally well from both the street and from the store interior. It has a glass front.

Featured in the case are a wide variety of items containing creams, along with other perishables.

## Techniflex Appoints Ray-Hirsch To Handle Its Advertising

PORT JERVIS, N. Y.—Techniflex Corp., manufacturer of refrigeration and air conditioning equipment, has announced the appointment of Ray-Hirsch Co., Inc., to handle its advertising and public relations.

## J.G. Fischer Moves Detroit Branch to New Building, Deke Jones Is Manager

DETROIT—Opening of a new building to house its Detroit operations was scheduled for Monday, Jan. 9, by J. Geo. Fischer & Sons, Inc., veteran wholesale distributor of parts and supplies, appliances, commercial fixtures in Saginaw, Mich., announces Ray Fischer, vice president.

Located at 2697 W. Grand Blvd. here, the Detroit store will be managed by Deke Jones, who has been associated with Fischer for the past three years but for many years previously was the Carrier field man in this territory. Jim Rawsthorne, formerly with Salem Engineering Co., will be sales and application engineer; Lee Jenne, specialty sales supervisor; and Nelson Babcock, head counterman.

Formal opening celebration for the new outlet will be staged sometime in February, Fischer indicated.

## Provision Co. To Install Freezers, Cooling Equipment

BUFFALO—The Gerry Provision Co., here will install new freezers and cooling equipment in a \$100,000 expansion program at its plant on Seneca St. The freezers will be for beef, pork, lamb, and poultry. The company has taken a 20-year lease on space in the Seneca Warehouse & Industrial Center and will double the floor area used for its meat and provision business.

## Sinichko Joins Cecil Boling As Application Sales Eng.

NEW YORK CITY—George Sinichko, graduate of Duke university and formerly with the remote equipment and refrigeration machine sales division of the General Electric Air Conditioning Department, has joined the Cecil Boling Co. as an application sales engineer, with headquarters in the New York office.

The Cecil Boling Co. is eastern agent for the Bush Mfg. Co. and The Heat-X-Changer Co.

Wherever frozen foods are sold, there's a prospect for these

# New FRIGIDAIRE Zero Self-Servers

Month after month, sales of frozen foods grow larger. That's because more and more kinds of food are being successfully frozen—and because these foods are being merchandized more effectively in more and more food stores.

The vast market for frozen food storage and display equipment offers another big profit opportunity for Frigidaire dealers. For Frigidaire's complete line of self-service frozen food, ice

cream and frozen fruit juice cabinets is setting the pace for the entire industry. Their smart styling and inviting display panels stimulate self-service sales. They're quality built—and attractively priced. What's more—they're backed by heavy, consistent advertising and promotion.

These facts mean more sales for Frigidaire Dealers—one more reason why the Frigidaire franchise is so valuable.



### For Frozen Foods or Ice Cream

This great new Frigidaire Zero Self-Server puts Frigidaire Dealers way out ahead. And no wonder, for its smart Raymond Loewy styling is combined with the extra space, the extra efficiency that only Frigidaire can give. Trimly compact, the Zero Self-Server is powered by the one-and-only Frigidaire Meter-Miser. Choice of frozen food or ice cream pictures.



### For Frozen Fruit Juices

Here's a wonderful new way for food merchants—and Frigidaire Dealers—to cash in on the mushrooming demand for frozen fruit juices. Styled by Raymond Loewy to attract attention, to sell, to provide quick self-service. Powered by the Meter-Miser—engineered for maximum protection of stock. Available in 3- and 4-picture sizes.



### New Frigidaire Merchandisers

These eye-catching display panels quickly transform any double-row Frigidaire Ice Cream Cabinet into a traffic-stopping self-service case. Not only does the Frigidaire Merchandiser give Frigidaire Dealers a profitable "extra"—but it adds a handsome new self-service case for frozen foods and ice cream to their line. In 3-, 4-, and 5-picture sizes.

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DISPLAY CASES  
ICE CREAM CABINETS  
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WATER COOLERS  
MILK COOLERS  
AIR CONDITIONERS  
COMPRESSORS  
COOLING UNITS



Visit the Frigidaire Exhibit  
International Heating and Ventilating Exposition  
Dallas Texas, January 23-27.





## Frigidaire Household, Commercial Line--

(Concluded from Page 1)

frigerated by extra-large, full-width super-freezer chests and new improved cold-wall cooling in the walls and bottoms. One offers 9 cu. ft. (DM-90) of storage space and the other 10.7 cu. ft. (DM-107).

New cabinet design and full-length door and a more compact but powerful rotary Meter-Miser compressor arrangement affords extra storage space. For example, the 9-cu. ft. model takes a little more actual kitchen space than a 5-cu. ft. refrigerator of only a few years ago.

These Deluxe refrigerators are equipped with many new features including adjustable and sliding aluminum shelves, twin extra-deep "stack-up" type hydrators to afford storage for larger items alongside if required, and new full-width plastic chill drawers. Super-freezer chests have storage capacities of 45 to 49 lbs. of frozen foods.

Three new Master series refrigerators are cooled by extra-large super-freezers now located in the upper right side of the food compartments. These new models include: An 11-cu. ft. refrigerator (MM-110); a 9.2-cu. ft. refrigerator (MM-92); and a 7.6-cu. ft. refrigerator (MM-76).

These gold-and-white Master models introduce for the first time adjustable aluminum shelves in low-priced refrigerators. In addition a new porcelain meat storage drawer is equipped with a plastic trivet especially designed to provide controlled ventilation at the bottom.

Also featured are twin "stack-up" hydrators, jack shelves, and large super-freezers with storage capacities

ties ranging from 19 to 29 lbs. of frozen foods.

Two new Standard series models in the low price bracket include: 7.6-cu. ft. (SM-76) and 6-cu. ft. (SM-60) refrigerators with frozen food capacities of 19 and 15 lbs., offering all the basic Frigidaire features including the newly located super-freezers, improved Meter-Misers, rust-resistant shelves, deep, sliding porcelain hydrators, and exclusive quickcube ice trays.

In addition to all these, there are special 4 and 17-cu. ft. models for extra small and extra large requirements and a full 6-cu. ft. model at a suggested cash price of only \$189.75.

Top models of the line are two Imperial refrigerators of 8 and 10-cu. ft. storage capacities. These refrigerators are two-door combination models—with separate locker-top freezers which hold 50 and 70 lbs. of frozen food, depending upon the model.

Imperial models feature new improved cold-wall refrigeration in the main food compartment, and are equipped with a new Refrig-o-plate which is part of the cold-wall cooling system.

These models are equipped with adjustable and sliding aluminum shelves, plastic basket drawers, deeper porcelain hydrators, and ice-blue and gold interior trim.

One of the most important aspects of the broad new refrigerator line, aside from advanced engineering, is the attractive, radically-different Raymond Loewy styling. Gleaming white, gold, and chromium predominates streamlined cabinet exteriors

### SUGGESTED CASH PRICES

Deluxe Refrigerators	
DM-107	\$349.75
DM-90	309.75
Master Refrigerators	
MM-110	299.75
MM-92	269.75
MM-76	234.75
Standard Refrigerators	
SM-76	219.75
SM-60	194.75
Imperial Refrigerators	
IM-100	449.75
IM-80	399.75
Special Refrigerators	
AM-43	184.75
AM-60	189.75
ML-171	617.75
30-in. Ranges	
RM-35 (giant oven)	199.75
RM-30 (giant oven)	169.75
40-in. Ranges	
RM-75 (two ovens)	349.75
RM-65	309.75
RM-45	279.75
RM-27	239.75
RM-17	209.75
24-in. Ranges	
RK-3	154.75
RK-4	164.75

while white lifetime porcelain, satin-finished aluminum, and lustrous gold trim are featured in the interior.

New full-length doors and "target door latches" lend a distinctive appearance to the new refrigerators.

Frigidaire has developed two new compact, all-porcelain, 30-in. model ranges equipped with what are claimed to be the largest ovens in any electric household range.

Although the "Thrifty-30" ranges (RM-30 and RM-35) are compact enough to fit into the smallest kitchens, they have a cooking capacity to turn out big harvest sized meals. The new "giant" oven is

large enough to hold six pies or 10 loaves of bread.

These new models are equipped with four new flat-top Radiantube surface cooking units, convenient appliance outlets, and leveling glides.

The RM-35 features a new cook-master oven clock control, which combines in one unit controls for automatic cooking, a cooking top lamp, and electric kitchen clock. A full-width storage drawer located under the large oven pulls out on triple nylon rollers.

An extensive line of 40-in. electric household ranges is also produced by Frigidaire. There are two Deluxe models included, one featuring two complete ovens (RM-75) and the other (RM-65) equipped with a single oven and warming drawer.

Both of these models feature streamlined styling, have high back panels, and include thermizer deep-well cookers, radiant tube units, full-width fluorescent lamps, "6-60" time signal, and large ovens. Also there are two 40-in. economy models (RM-27 and RM-17), plus two 24-in. ranges.

Two food freezers with frozen food capacity of 11.7 and 18 cu. ft. were also announced. A Meter-Miser compressor supplies plenty of low temperature refrigeration. An 8.8-cu. ft. freezer rounds out the line.

Also, an improved electric dehumidifier for home and business use is being shown.

Highlighting new commercial products are glass-door commercial refrigerators which rival their household counterparts in appearance, room air conditioners, self-contained milk coolers, and water coolers.

In addition, a new large open-type Zero Self-Server has been added to the broad ice cream cabinet line.

## Philco Room A. C. Line Has 6 Basic Units, 9 Models

CHICAGO—Philco's 1950 single room air conditioner line consists of six basic units in nine models, as introduced at the distributor's meeting here. They range from ½ through 2 hp. and all are equipped with sealed power systems.

There are two ½-hp. window-sill conditioners, models 50-F and 50-FL. The former is in a two-tone tan cabinet and the latter in an ivory cabinet. The ½-hp. models have the pump-out feature for the first time.

For rooms up to 285 sq. ft., these models deliver up to 200 cu. ft. of room air a minute, and remove up to 1.4 pints of water an hour, according to the company. They reportedly bring in outside air up to 180 cu. ft. a minute and exhaust stale air up to 50 cu. ft. a minute.

These models are designed to fit windows from 27 in. wide up to 48 in. and they extend into the room 10½ in. Their dimensions are 14½ in. high, 26½ in. wide, and 10½ in. deep. Price of the models is \$289.50.

There are also two ¾-hp. window-sill models—75-F in two-tone tan and 75-FL in ivory—for rooms up to 400 sq. ft. They handle up to 300 cu. ft. of room air a minute, remove up to 1 qt. of water an hour, bring in outside air up to 250 c.f.m., and exhaust stale air up to 50 c.f.m., it is claimed.

Models 75-F and 75-FL will fit any window from 27 in. wide up to 48 in. and extend 18½ in. into the room. They measure 14½ in. high, 26½ in. wide, and 18½ in. deep. They carry a price tag of \$359.50.

The four above-mentioned models have Bonderized, baked-enamel finish steel cabinets.

Next two models in the line are a 1-hp. console model (75-FC) and a 1-hp. console model (100-FC). The former is priced at \$539.50, the latter at \$589.50.

Cabinets of both models are of walnut veneers with the top finished in "Philcoleather" embellished with gold tooling. Cabinet dimensions are 32½ in. high in lowest position, 45½ in. wide, and 17½ in. deep.

Both models will fit any window from 27 in. wide up to 48 in., having adjustable legs for sill heights from 22½ in. up to 33 in. The cabinet extends 18½ in. from the window sill. The models have four-way adjustable grilles on the front of the cabinet.

Model 75-FC is for rooms up to 440 sq. ft. It is claimed to deliver up to 300 cu. ft. of room air a minute, remove up to 2.1 pints of water a minute, bring in fresh air up to 250 c.f.m. and exhaust stale air up to 200 c.f.m.

Philco makes these claims for the model 100-FC, designed for rooms up to 550 sq. ft.: It delivers up to 340 cu. ft. of room air a minute, removes up to 3.2 pints of water an hour, brings in fresh air up to 250 c.f.m., and exhausts stale air up to 200 c.f.m.

The line also includes two heavy-duty water-cooled models. They are models 150-FCW (1½ hp.) and model 200-FCW (2 hp.) and are priced respectively at \$819.50 and \$869.50.

For rooms (including stores, offices, and perishable storage areas as well as homes) up to 900 sq. ft., model 150-FCW is said to deliver up to 685 cu. ft. of room air a minute and remove up to 3½ quarts of water an hour. No access to outside air is needed.

Model 200-FCW has the same features as model 150-FCW, but with extra capacity. It is designed for rooms of various kinds up to 1,200 sq. ft. and, according to Philco, will handle up to 790 cu. ft. of air a minute and remove up to 4 quarts of water an hour.

Cabinets for both models are steel and of the same dimensions, 39½ in. high, 42½ in. wide, and 22½ in. deep. Model 200-FCW is light tan, while model 150-FCW is light tan with walnut brown panels.

The current model 91-CE, a ¾-hp. console unit, is continued in the 1950 line.

### Buckner's Handles Westinghouse

BEAR LAKE, Mich. — Clarence Buckner, Buckner's Farm Service, has been named Westinghouse dealer. The appliance department occupies half of the new 40 by 80-ft. cinder block building.

## Valmart-New York, Inc. Acquires Freshmaster Trade Name from Noma

NEW YORK CITY—Fred Rohrich, president of Valmart-New York, Inc. (formerly Valmart Equipment Distributors, Inc.), has announced that the inventory of the Freshmaster division of the Noma Electric Corp., together with the Freshmaster trade name, good will, patents, etc., were acquired from Noma Electric Corp. on Dec. 21, 1949.

Noma previously had disposed of its Frigid Freeze division and, with the disposition of the Freshmaster division to Valmart-New York, Inc., is completely out of the refrigeration business, Rohrich stated.

He added that the Freshmaster trade name will be used by Valmart on all items distributed through its New York operation and newly created Valmart branches which have already been opened in Philadelphia and Miami.

He declared that Pittsburgh, Washington, and Boston Valmart branches will be opened sometime in January. A branch will be opened in Chicago in early February. During the balance of the year, a total of 20 branches will be in operation in 20 key cities throughout the U. S.

John Bess, a director of Valmart-New York, Inc., has charge of opening the branches. Each branch is being set up as a separate corporation, separately capitalized and with no financial relation to the New York operation, Rohrich declared. The branches are known as Valmart-Philadelphia, Inc., Valmart-Washington, Inc., etc.

## Erie ASRE Hears Talk on 'Cold Rubber' Development

ERIE, Pa.—Two representatives of the B. F. Goodrich Co. told the story of "Refrigeration's Part in Cold Rubber" at the January meeting of the Erie section, American Society of Refrigerating Engineers, in the General Electric Community Center.

B. M. G. Zwicker, manager of the Akron experimental plant of the B. F. Goodrich Chemical Co., and J. H. Gifford, manager of compounding and raw materials at the Goodrich Co.'s Oaks division, were speakers. A color movie entitled "How Industry Uses Rubber" was shown.

Also on the program was a technical presentation by E. H. Magester on "Electronic Flaw Detector for Refrigeration Aluminum Tubing."

C. S. Grimshaw was chairman of the program, while W. P. Dodge and H. I. Becker, Jr., were co-chairmen of the technical presentation.

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Kind

Length

Manufacturer

Plant Locations

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You will readily agree that here's a most convenient way to handle refrigeration tube—50-foot coils in individual packages—protected against harm.

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## Five 5-Ton, Three 3-Ton Cooling Units Condition Entire 4-Story Office Bldg.

DAYTON — "No modern office building should be without air conditioning."

That's what Rollin L. Rosser, architect and engineer, of Dayton thinks. He's put his own thinking into granite and plaster terms in Dayton's newest office building which he designed, built, and owns. The result is a modern, well-equipped building four stories high with 11,420 sq. ft. of rental space and some of the leading companies in the country as tenants. These include Firestone Tire & Rubber Co.; F. W. Dodge Corp.; and Pitney-Bowes. There's even an interior decorator's shop on the first floor.

Rosser says his building is "re-built," not "remodeled." Originally the structure was a triple brick residence located three blocks from Dayton's downtown business center. Now, a gleaming granite, glass, and limestone structure rubs shoulders with its residential and other business neighbors. Begun in December, 1947, work is still progressing in finishing

are strategically located to control each zone. At the same time, there is a central switch in the basement which can cut power from all units simultaneously along with a self-service elevator. Also in the basement is a control panel with individual fuse controls for each of the units.

The hallways on each floor form a square and a unit is placed on the east and west sides except on the fourth floor. Here, Rosser has his offices with a wide expanse of glass stretching across the entire front of the building. The air conditioners are placed safely in closets. The glass is on the north side to receive the best light for Rosser's draftsmen.

Rosser says the east-west arrangement effectively handles the intense solar heat. Although his roof is insulated, his walls, of solid brick, are not, and there are no awnings on the building. In the morning, the air conditioners on the east side are used more than those on the west and vice versa in the afternoon thus reducing operating costs.

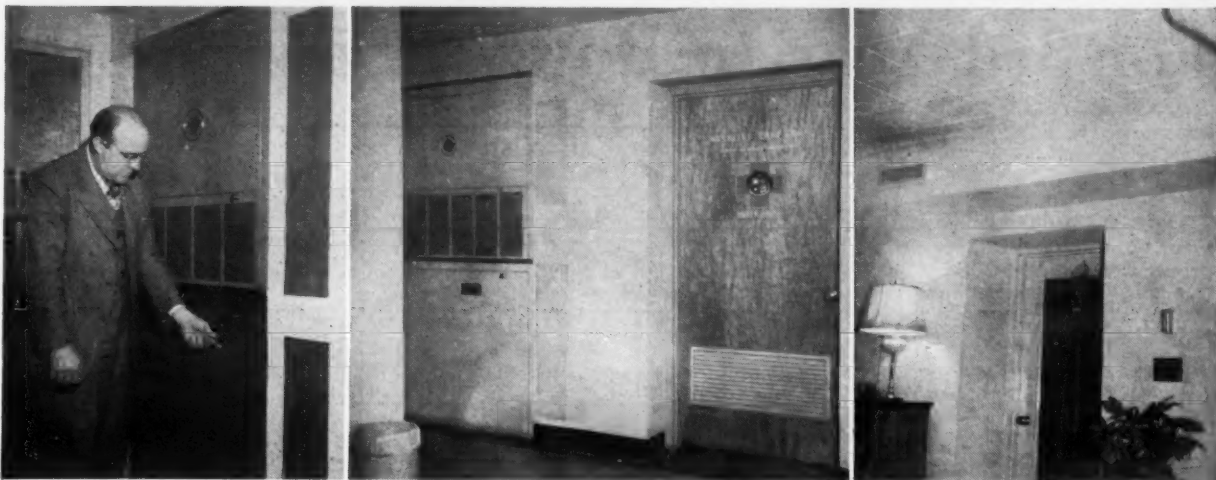
An unusual feature of the installation is the absence of return ducts. The hallways serve this purpose and grilles are placed in the office doors to facilitate the flow. Only short ductwork is used to run the conditioned air from the units to the various offices.

The hall layout also economized on installation of steam pipes. Just two risers are used from the low pressure American-Standard boiler. One riser goes to the units on the east side and one to those on the west through a central section that also holds the self-service elevator.

All air conditioners in hallways are installed flush with the wall and controls are easily accessible from the front of each unit.

In installing the units, Rosser says he was troubled by vibration on some

## How the Eight Packaged Units Are Set Up To Do the Job



LEFT: Rollin L. Rosser, architect and engineer, adjusts the controls on one of the eight air conditioners used in the building which he designed, built, and owns. CENTER: The air conditioners are installed flush with hallway walls. There are no return ducts, and grilles in doors facilitate the return flow of air. RIGHT: On the first floor is a decorator's shop. Here the air outlets are mounted in the furring near the entrance. On the wall is one of the thermostats controlling the air conditioning.

### Hajoca Purchases Rowland Supply, Makes It Branch

PHILADELPHIA — Hajoca Corp., manufacturer and distributor of plumbing, heating, industrial, and refrigeration products, has announced the purchase of the Rowland Supply Co. of High Point, N. C. This makes 32 full-scale branch operations for Hajoca.

O. L. Rowland, former owner of Rowland Supply Co., will remain in an advisory capacity for 2 years, and C. B. Hurley, formerly of the Rowland Co., has been appointed

branch manager. All policies will remain the same, and there will be no other changes in branch personnel.

### Mitchell Franchises 3 Firms

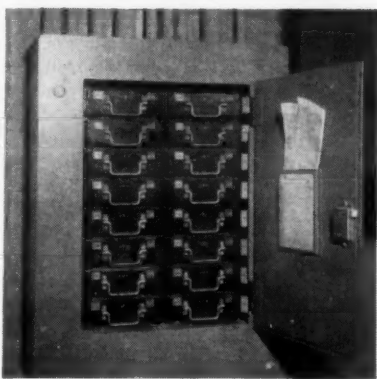
CHICAGO — Three new distributors have been franchised to handle the Mitchell line of room air conditioners, E. A. Tracey, vice president of Mitchell Mfg. Co. here, announced recently.

The new appointees are the Raymond Rosen Co. of Philadelphia, Arnold Wholesale Co. of Cleveland, and the Northwestern Distributors of Boston.

### Air Conditioning Planned For Hudson Memphis Office

MEMPHIS, Tenn. — Air Conditioning is planned for the new building to be constructed by the Hudson Sales Corp. here, Carl M. Brown, Hudson zone manager, announced recently.

The building, to be located at S. Bellevue and Heistan Aves., will devote about 4,000 sq. ft. of space to offices and 20,000 sq. ft. to warehouse. It is expected to cost about \$150,000 and be ready for occupancy by March 1.



In the basement is a central fuse box with individual fuses for each air conditioner. Power may be cut from each unit individually or all together.

up part of the interior but the majority of the building is completed and rented.

Not only is it rented, but Rosser says he has more applications for space than he can care for. He places the advantages of air conditioning high on his list of reasons for this demand. Of the original building, only the floors remain and these have been finished in modern style with asphalt tile and other hard wearing surfaces.

To air condition the building, Rosser used packaged Chrysler Air-temp units. "By using these packaged units, I saved a great deal of money on installation, particularly the ductwork," Rosser says. "Instead of using a central system for both heating and cooling, I used these three and five-ton water-cooled units then ran steam to the coils from a gas-fired boiler in the basement. There are five 5-ton and three 3-ton units without dehumidification and they do the entire air conditioning job."

Each unit controls one particular zone in the building. Thermostats

### Power Costs During 1949 for Air Conditioning and Self-Service Elevator

Jan. ....	\$ 22.54
Feb. ....	16.48
Mar. ....	13.56
Apr. ....	13.07
May ....	10.48
June ....	22.14
July ....	60.12
Aug. ....	184.80
Sept. ....	165.79
Oct. ....	85.80
Nov. ....	27.75
Dec. ....	27.75

of the units. Therefore, cork was used as a mounting to absorb the vibration. This was done where the units rest on the original wood floor instead of asphalt tile or concrete.

As far as Rosser can determine, his rental of \$2.40 per sq. ft. per year is the lowest for any air conditioned building in Dayton. He believes that, as business returns to its normal competitive status, there will be great competition in office rentals and only those offices that are air conditioned will be able to show a profit. He considers his cost for power low in return for the comforts of air conditioning. The accompanying table shows his power costs over a twelve-month period and includes power for running the elevator.

Rosser not only wants to keep his tenants but wants them to enter the building easily on cold wintry days. So, he installed steam pipes under his front cement walk to melt ice and snow. Thus, he can get 'em in and keep 'em comfortable.

### Brass and Copper Sales Co. Opens New Parts, Supplies Branch on Clifton Ave.

ST. LOUIS — The Brass and Copper Sales Co., 2817 Laclede Ave. here., has established a wholesale branch for refrigeration parts and supplies at 2705 Clifton Ave., Howard H. Hubbell, president, has announced.

The new branch will maintain complete stocks of refrigeration service parts at all times. A charging rack for the sale of refrigerants has been installed which will enable the serviceman to have access to a complete "one stop" supply point, he declared.

Bernard Boyer has been named manager of the branch.

# TOPS

IN-THE-FIELD!



## THERMOBANK

by **KRAMER**

Reg. U. S. Pat. Off.

The outstanding development in the refrigeration field in the past decade.

The standard of the industry for complete automatic defrosting at temperatures below 32°.

Write for Bulletin R-124

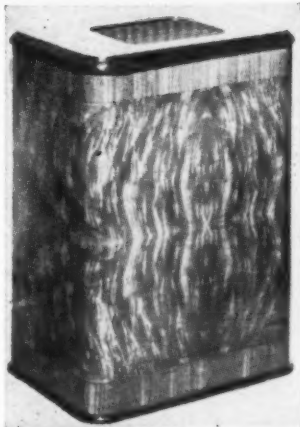
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### HERE'S SOMETHING HOT FOR COLD-WEATHER SALES



### CARRIER HOME HUMIDIFIER

Evaporates up to one quart per hour. Handsome two-tone walnut finish. Retail Price \$69.50. Dealer discount. Limited stock. FOB Cleveland.

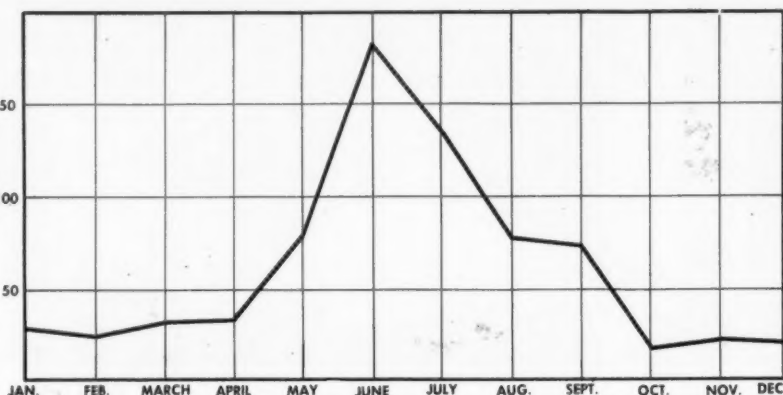
Immediate Shipment

**AVERY PRODUCTS**  
1908 EUCLID AVE.  
CLEVELAND 15, OHIO



## Air Conditioning Sales Gain In Detroit For 3rd Year In Row, Survey Shows

Shown in this graph are the month-by-month air conditioning installations made in the city of Detroit during 1949. As might be expected, June and



July were the largest months, when sales and installations soared after a relatively slow beginning the earlier part of the year.

DETROIT—For the third straight year, sales of air conditioning in Detroit continued to show a gain over the preceding year, according to tabulations made by AIR CONDITIONING & REFRIGERATION NEWS.

During 1949 a total of 710 air conditioning package units or condensing units were installed in the city, compared with 673 in the previous year, as revealed in a compilation of permits issued for such

installations by the Detroit Department of Buildings & Safety Engineering.

This gain represented an increase of 5.5% over 1948's total, which is considerably less than the phenom-

nal increases chalked up in preceding years. In 1947, for example, air conditioning installations jumped 60.8% over 1946, while in 1948, sales were 59.1% over 1947.

In 1949 the 710 installations were made in 571 different establishments; in 1948, the 673 jobs went in 516 establishments; in 1947 it was 423 units and compressors in 286 establishments; and in 1946 a total of 266 units went into 213 establishments.

Installed horsepower in 1949 amounted to 5,803, slightly below the 5,923 hp. of 1948, but still ahead of the 5,229 hp. in 1946 and 5,571 hp. in 1947.

The accompanying tables bring out various data concerning air conditioning installations for both 1948 and 1949, such as the units installed by month, size of the equipment, where it was installed, and how contractors shared in the total.

In the month-by-month comparison, June was the biggest month during 1949, a total of 181 units having been installed then. Second biggest month was July with 132, while October was the lowest with 16.

In 1948, however, July was the largest month with 125, August sec-

### Number of Contractors Who Installed Air Conditioning Units In Detroit In 1949

Contractor	No. Units	%
A	98	14.2
B	72	10.1
C	64	9.0
D	60	8.4
E	51	7.2
F	37	5.2
G	36	5.1
H	33	4.6
I	20	2.8
J	19	2.7
K	19	2.7
L	17	2.4
M	16	2.2
N	15	2.1
O	11	1.5
P	10	1.4
Q	10	1.4
R	10	1.4
S	9	1.2
T	8	1.1
U	7	1.0
V	6	.8
W	6	.8
X	6	.8
Y	6	.8
Z	5	.7
AA	5	.7
BB	5	.7
CC	4	.6
DD	4	.6
EE	4	.6
FF	3	.4
GG	3	.4
HH	3	.4
II	2	.3
JJ	2	.3
KK	2	.3
LL	2	.3
MM	2	.3
NN	2	.3
16 installed 1 each		2.2
Total 56	710	100.0

ond with 91, and January was the lowest with 12.

As for the sizes of the installations, the 5-hp. package unit continued well in the lead, as it has in previous years in Detroit. There were 390 5-hp. package units installed in 1949 plus 12 remote for a total of 402 machines in this size. Second in popularity was the 3-hp. size, a total of 127 having been installed.

This one-two relationship has been characteristic of all four postwar years.

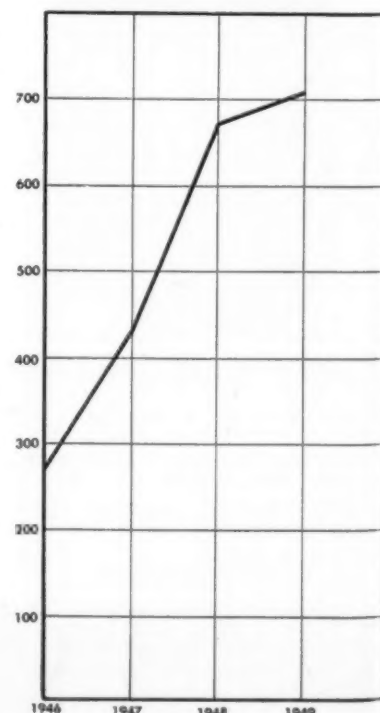
Third in popularity during 1949 was the 7½-hp. machine; 47 were installed. This size also was third in 1948.

Many more self-contained air conditioning units continue to be installed than the so-called "central" jobs involving built-up components. During 1949 a total of 575 were classified as self-contained jobs, while 135 were central station jobs. Included in the latter, however, may

### Air Conditioning Units, Compressors

	1948	1949
January	12	27
February	37	23
March	42	31
April	90	32
May	68	78
June	63	181
July	125	132
August	91	78
September	33	70
October	27	16
November	69	22
December	16	20
Total	673	710

### 4-Year Sales



## Here's what ELECTRICAL MERCHANDISING says about "The Marshal's Baton"...



### "The Marshal's Baton"

A comprehensive knowledge of merchandising, combined with a refreshing approach, makes George Taubeneck's book on specialty sales management well worthwhile

SHOOTING the breeze with George Taubeneck can be a pretty exhilarating experience. Strictly speaking, it takes two people to carry on a dialogue, but the publisher-editor of *Air Conditioning and Refrigeration News* manages somehow to impart a give-and-take, conversational atmosphere to his writing. In "The Marshal's Baton" (Conjunction House, Detroit, \$5) you'll find a discussion of specialty sales management which is about as informal as it could be. It's as if Mr. Taubeneck were anticipating argument all along the line, and throwing out his rebuttal off the cuff. And it's made all the more refreshing by the humor interspersed throughout. A sizable booklet could be compiled just by lifting from the text all the illustrative anecdotes (along with some not so illustrative, as the author is the first to admit).

**Napoleon Said It**  
The book's title is derived from a remark of Napoleon's that "Every private carries a marshal's baton in his knapsack." It is dedicated to the private on the sales staff who want to become marshals in the front office. What it adds up to is a survey, in general terms, of everything a specialty sales manager ought to know. A tall order; no wonder it takes 570 pages to do the job.

**It's All There**  
Those 570 pages make fast reading. Under headings like "It's a Great Pro-

### High Brass Helps Out

To bolster his statements, Mr. Taubeneck quotes from a number of eminent sales executives, many of whom contributed their comments expressly for this book. Their remarks deal not only with specific, practical matters, but with business ethics and philosophy, and they deserve the permanent form which the book gives them.

### Wide Application

Because the main concern of "The Marshal's Baton" is helping to coordinate manufacturing and production with sales on the distributor, dealer and consumer levels, it holds much of interest to almost anyone involved in business. And the appliance field comes in for more than its share of scrutiny. There is little point in trying to cover this volume chapter by chapter; there's too much in it. Investigate it for yourself. You won't be sorry.

And this is just a small sample of critical comment which has hailed THE MARSHAL'S BATON as a significant contribution to the science of sales management. It is written in the light of merchandising problems today and tomorrow. It's a brilliant new source of knowledge and wisdom which can be of tremendous importance to you.

### ORDER TODAY — USE THIS COUPON

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City . . . . . Zone . . . . . State . . . . .

## Conjure House

BOOK DIV. OF BUSINESS NEWS PUBLISHING CO.  
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## 10 More Contractors Shared In Record-Breaking Sales Year

(Concluded from preceding page)  
be a number of package units which are centrally located.

The largest single compressor installed for air conditioning in Detroit during 1949 was a 300-hp. job. Nothing larger than a 75-hp. went in during 1948.

More contractors handled air conditioning jobs during 1949 than in the preceding year, according to this data. In 1949 there were 56 different contractors, compared with 46 in the preceding 12-month period.

As usual, most of the jobs were handled by a few. The six leading contractors in 1949 installed 54% of all the jobs. In 1948 54% of the installations were made by the top seven contractors. The six top con-

tractors in 1949 represented 10.7% of the total.

There was not as marked a difference, however, between the top contractor in 1949 and the second largest, as compared with the preceding year.

In 1949 Contractor A installed 98 units, or 14.2%, while Contractor B installed 72 units, or 10.1%. In 1948 Contractor A gained 18.7% of the total, Contractor B gaining 10.2%.

There was also somewhat less spread between the six leading contractors in 1949 than in 1948.

At the other end of the list, there were 16 contractors who handled one job each during 1949, compared with 11 who did likewise the previous year. Six contractors installed two

### Size and Amount of Air Conditioning Equipment Installed In Detroit During 1948 and 1949

Size In Hp.	1948			1949		
	*Central	*Self-Contained	Total	*Central	*Self-Contained	Total
Less than 3 hp.	7	2	9	3	4	7
3	8	107	115	3	124	127
5	25	337	362	12	390	402
7½	19	37	56	14	33	47
10	18	10	28	20	20	40
15	31	2	33	27	3	30
20	8	.....	8	7	.....	7
25	26	.....	26	16	1	17
30	9	.....	9	5	.....	5
40	9	.....	9	17	.....	17
50	5	.....	5	7	.....	7
60	7	.....	7	2	.....	2
75	6	.....	6	1	.....	1
300	.....	.....	.....	1	.....	1
<b>Total</b>	<b>178</b>	<b>495</b>	<b>673</b>	<b>135</b>	<b>575</b>	<b>710</b>

\*"Central" systems, as tabulated here, are those where the air conditioning equipment is not located within the conditioned space, in contrast to the "self-contained" equipment which is installed within the conditioned space. Included in the "central" column, however, are a number of self-contained machines which have been remotely installed.

each in 1949, just as in 1948.

Although the number of units sold in 1949 represented only a 5.5% increase over 1948, there was a 10.7% increase in the number of establishments air conditioned—571 to 516. These figures can be compared also with 213 establishments air conditioned in 1946 and 286 in 1947.

Taverns and restaurants were the leading purchasers of air conditioning

during 1949, 114 taverns installing 659½ hp. while 101 restaurants put in 676½ hp. Third in number with 75, offices accounted for the most horsepower, however, this category having 841 hp. connected for air conditioning, exclusive of fan motors, etc.

A wide variety of establishments buying air conditioning is listed in the 71 different categories for which

installations were tabulated during 1949.

Leading off the alphabetic list, appropriately enough, are two air conditioning dealers, while at the other end is an X-ray laboratory. In between are such installations as a 50-ton job in the offices of the baseball stadium, a die manufacturing shop, a lumber company office, two camera shops, a nut shop, union office, plumbing contractor, and a welding supply house.

Theaters are still important, a total of 422½ hp. having been installed in 11 of them during the year.

One of the big gains noted in 1949 was the drugstore, 29 being air conditioned during the year, compared with 20 in 1948 and seven during 1947.

### 5 Virginia RSES Chapters Set Meeting for March 18

RICHMOND, Va.—Third annual convention of the Virginia State Association of the Refrigeration Service Engineers Society will be held at the Jefferson hotel here, March 18, announces Al Hauck, convention chairman.

More than 150 dealers, servicemen, contractors, and others attended each of the two previous meetings staged by the state group, which is made up of five chapters in Charlottesville, Newport News, Norfolk, Richmond, and Roanoke.

### Where Air Conditioning Was Installed In Detroit During 1948 and 1949

Establishment	1948		1949	
	No.	Hp.	No.	Hp.
Air conditioning dealer	.....	.....	2	17
Airline office	1	5	.....	.....
Airport control tower	1	5	.....	.....
Art supplies store	1	5	.....	.....
Appliance store	5	55	6	37½
Bakery	3	30	4	28
Bank	18	283	5	76
Barber shop	1	2	.....	.....
Baseball stadium office	.....	.....	1	50
Beauty parlor	1	3	7	33½
Bowling alley	8	165	5	55
Brewery	2	55½	1	5
Bus garage	1	118	.....	.....
Cafeteria	2	20	1	3
Camera shop	.....	.....	2	15
Candy manufacturing	2	25	1	3
Candy store	3	11	.....	.....
Carpeting store	1	5	.....	.....
Caterer	.....	.....	1	5
Church	1	7½	2	10
Clinic	3	20	4	25
Clothing store	11	206	8	103
Conference room	2	10	1	5
Club	2	10	2	23
Dairy bar	2	10	4	18
Dance studio	.....	.....	1	6
Delicatessen	1	8	1	5
Dentist's office	2	13	1	3
Department store	8	425	5	535½
Die manufacturing	1	240	1	5
Dime store	.....	.....	1	7½
Doctor's office	11	48½	6	24
Drafting room	4	53	.....	.....
Dress shop	17	163½	17	101½
Drugstore	20	176½	29	186½
Dry goods store	.....	.....	2	10
Egg wholesaler	1	10	.....	.....
Exposition company	.....	.....	1	3
Factory	3	178	11	151
Food processing	1	5	1	7½
Foundry	1	10	.....	.....
Funeral home	10	68½	13	105½
Fur store	6	45	1	15
Furniture store	4	25	1	70
Gift shop	2	10	2	8
Haberdashery	8	34½	10	44
Hall	.....	.....	1	300
Hardware store	.....	.....	1	5
Hospital	6	38	3	10
Hotel	2	21	9	168½
Insurance office	2	40	5	58
Jewelry store	12	86	8	46
Laboratory	6	37½	3	18
Loan company	1	5	1	7½
Lumber company office	.....	.....	1	3
Malt manufacturing	1	140	.....	.....
Manholes (portable installation)	2	6	11	11
Market	9	74	4	20½
Music store	2	13	.....	.....
Millinery shop	.....	.....	1	3
Nut shop	.....	.....	1	3
Office	76	687½	75	841
Optical store	1	3	.....	.....
Photoengraver	1	15	.....	.....
Photo studio	.....	.....	5	28½
Plating shop	1	3	.....	.....
Plumbing contractor	.....	.....	1	7½
Printer	3	53	5	163½
Publishing house	2	13½	.....	.....
Radio store	.....	.....	1	5
Radio studio	2	13½	1	5
Reading room	.....	.....	1	5
Real estate office	3	17½	1	3
Record shop	2	9	.....	.....
Residence	5	24½	9	33
Restaurant	97	751½	101	676½
Salesroom, auto	15	118½	7	72
Seed grower	1	¾	.....	.....
Shoe store	7	33	15	91½
Storage	2	10	.....	.....
Store	23	117½	14	207
Tavern	42	272	114	659½
Telegraph office	1	65	.....	.....
Television studio	2	60	1	30
Theater	11	593	11	422½
Tire shop	2	10	.....	.....
Union office	.....	.....	1	15
Unknown	2	25	1	15
Upholstery shop	1	5	.....	.....
Utility office	.....	.....	4	25
Warehouse	.....	.....	2	25
Welding supply house	.....	.....	1	15
X-ray laboratory	.....	.....	1	15
<b>Total</b>	<b>516</b>	<b>5,923½</b>	<b>571</b>	<b>5,803</b>



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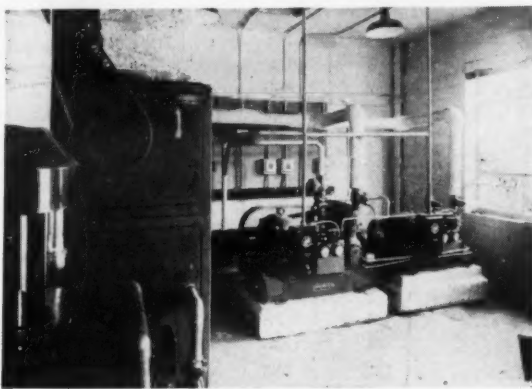
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- c. Control panel—for manual or automatic control.
- d. 4-Row deep cooling coils assuring full capacity.
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- f. Freon Light Glass and liquid line strainer.
- g. High efficiency shell and coil condensers for economical water consumption.
- h. Flexible copper connections to prevent leaks.
- i. Heavy duty—Full capacity Copeland semi-Hermetic motor compressor unit.



## Dallas Television Station's Air Conditioning System Solves Difficult Problems of Sound and Vibration

Compressor room at Station KBTB showing Baker units mounted to avoid vibration. This is one of the few television stations in the country which is fully air conditioned.



DALLAS, Tex.—Station KBTB, believed to be one of the first completely air conditioned television stations in the country, was opened recently here.

Owned by Tom Potter, Texas oil operator and financier, it was designed literally from the ground up for this one service.

Air conditioning is rapidly becoming recognized as an essential part of television broadcasting station equipment. But its application to this field has involved a number of difficult problems.

Among these are matters of vibration and sound, both of which appear to have been solved in the present case.

Two Baker "Freon" compressors (XF1500H and XF750H) are used. The installation also involves utilization of heat generated by the lights in the studio and drawn off and re-

circulated throughout other parts of the building during the winter months.

The installation was designed and installed by Texas Refrigeration Engineering Co., Baker distributor here, and the building was designed by Fooshee & Cheek, architects.

### Niagara Bulletin Describes Controlled Humidity Method

NEW YORK CITY—A new bulletin describing its controlled humidity method of air conditioning was issued recently by Niagara Blower Co., 405 Lexington Ave. here.

The two-page bulletin, numbered 112, is illustrated to show various applications of the method and contains a flow diagram to indicate how it works.



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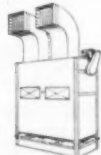
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## Partial Listing of Companies Planning To Exhibit At ASHVE's Southwest Air Conditioning Exposition In Dallas

A-J Mfg. Co. ....	325, 327	Copeland Refrigeration Corp. ....	225	Palmer Mfg. Corp. ....	702
Acme Industries, Inc. ....	103	Crane Co. ....	204	Patterson-Kelley Co., Inc. ....	838, 840
Air Devices, Inc. ....	220	Curtis Refrigerating Machine Div.,		Payne Furnace Div., Affiliated	
Air-Maze Corp. ....	105	Curtis Mfg. Co. ....	307	Gas Equipment, Inc. ....	343
Airtemp Div., Chrysler Corp. ....	203	Cyclotherm Corp. ....	359	Pennsylvania Furnace & Iron Co. ....	356
Aldrich Co. ....	329, 331			Pittsburgh Corning Corp. ....	127
Allan Engineering Co. ....	267, 269	Day & Night Div., Affiliated		Plumbing & Heating Journal ....	430
Allis-Chalmers Mfg. Co. ....	820	Gas Equipment, Inc. ....	360	Plumbing & Heating Wholesaler ....	430
Allis Co., The Louis ....	733	Detroit Lubricator Co. ....	614	Polaire Cooler Co., Inc. ....	610
Alton Mfg. Co. ....	313	Devices, Inc. .... One half of both 115, 117		Popell Co. of Texas ....	263
Aluminum Co. of America ....	724	Dewey-Shepard Boiler Co. ....	454	Powers Regulator Co. ....	833, 837
American Air Filter Co., Inc. ....	416, 420	Dodge Corp., F. W. ....	825		
American Artisan ....	315	Dole Refrigerating Co. ....	737	Quiet-Heat Mfg. Corp. ....	816
American Coolair Corp. ....	706	Dole Valve Co. ....	324		
American Gas Assn., Inc. ....	274, 374, 474	Dollinger Corp. ....	226, 228	R C S Tool Sales Corp. ....	829
American Radiator & Standard		Domestic Engineering Catalog		Radiant Utilities Corp. ....	427
Sanitary Corp. ....	333, 337	Directory ....	129, half of 131	Ralph Supply, Inc. ....	611
American Sheet Metal Co. ....	804	Domestic Engineering Co. ....	129 half of 131	Randall Graphite Bearings, Inc. ....	219
American Society of Heating &		Domestic Engineering		Ray Oil Burner Co. ....	332
Ventilating Engineers ....	436	Magazine ....	129, half of 131	Ready-Power Co. ....	363
Ames Iron Works ....	369	Doyle Vacuum Cleaner Co. ....	271	Redmond Co., Inc. ....	124, 126
Anemostat Corp. of America ....	401	Duo-Therm Div., Motor Wheel Corp. ....	339	Refrigeration Appliances, Inc. ....	628
April Showers Co., Inc. ....	810	Durant Insulated Pipe Co. ....	806	Refrigeration Engineering,	
Armstrong Cork Co. ....	424	Dwyer Mfg. Co., F. W. ....	316	Inc. ....	635, 637, 639, 641
Armstrong Machine Works ....	428			Remington Air Conditioning Div.,	
Armstrong Products Corp. ....	251, 253	Fairbanks, Morse & Co. ....	104	Remington Corp. ....	265
Armstrong Steam Trap Co. ....	428	Farr Co. ....	111	Research Products Corp. ....	438
Automatic Firing Corp. ....	800	Fasco Industries, Inc. ....	326, 328	Reynolds Metals Co. ....	214, 216
Automatic Products Co. ....	624	Fedders-Quigan Corp. ....	719	Ric-wil Co. ....	403
		Forney Engineering Co. ....	632	Ridge Tool Co. ....	448, 450, 452
Baker Refrigeration Corp. ....	728	Frick Co. ....	355	Robertson Co., H. H. ....	120, 122
Baltimore Aircoil Co., Inc. ....	729	Frigidaire Div.,		Royal Heaters, Inc. ....	836
Barber-Colman Co. ....	207	General Motors Corp. ....	133, half of 131		
Bar-Brook Mfg. Co., Inc. ....	631	Gannon Co., Russell R. ....	423	Sarco Co., Inc. ....	215
Bauer & Black Div. of		General Controls Co. ....	264, 266	Scovill Mfg. Co. ....	808
The Kendall Co. ....	116, 118	General Electric Co.		Servel, Inc. ....	469
Bell & Gossett Co. ....	303	Air Conditioning Dept. ....	636, 640	Sheet Metal Worker ....	430
Black & Decker Mfg. Co., The ....	259, 261	General Filters, Inc. ....	426	Siemon & Co. ....	241
Bronson Mfg. Co. ....	123	Glasfloss Corp. ....	830	Skidmore Corp. ....	351
Bryant Heater Div., Affiliated		Gold Top Heating, Inc. ....	732	Smith Corp., A. O. ....	254, 256, 258, 260, 262
Gas Equipment, Inc. ....	459, 461, 463, 465	Goodfellow Co., Inc., E. D. ....	421	Southland Supply Co., Inc. ....	364
Bundy Tubing Co. ....	619	Governair Corp. ....	408	Stewart-Warner Corp. ....	270
		Greenlee Tool Co. ....	231	Sundstrand Machine Tool Co. ....	415
Carrier Corp. ....	703, 707, 711	Gustin-Bacon Mfg. Co. ....	252	Surface Combustion	
Century Electric Co. ....	460, 462			Corp. ....	348, 352, 447, 451, 453
Char-Gale Mfg. Co. ....	822, 824	Heating & Ventilating ....	217	Tal Bender, Inc. ....	828
Chemical Engineering Co. ....	826	Heating, Piping & Air Conditioning ....	315	Tennessee Enameling Mfg. Co. ....	243
Climax Machinery Co. ....	213	Holly Mfg. Co. ....	221, 223	Texas Lawn Sprinkler Co., Inc. ....	810
Crow & Sons, James B. ....	815	Hunter Fan & Ventilating Co., Inc. ....	811	Thermobloc Div., Prat-Daniel Corp. ....	224
Coleman Co., Inc., The ....	370			Titus Mfg. Corp. ....	318
Combustion Control Corp. ....	255, 257	Illinois Testing Laboratories, Inc. ....	232	Torrington Mfg. Co. ....	208
Comfort Products Corp. ....	212	Imperial Brass Mfg. Co. ....	812, 814	Trimont Mfg. Co., Div. of	
Commercial Filters Corp. ....	218	Industrial Press ....	217	Aetna Industrial Corp. ....	818
Congress Drives Div., Tann Corp. ....	832	Ingersoll-Rand Co. ....	715	Trion, Inc. ....	239
Connor Engineering Corp.,		International Mfg. Co.,		Tuttle & Bailey, Inc. ....	311
W. B. ....	121, 119 & half 117	Air Conditioning Div. ....	603	Typhoon Air Conditioning Co., Inc. ....	623, 625
Continental Air Filters, Inc. ....	211	International Metal			
		Products Co. ....	613, 615, 617	United Electric Service Co. ....	425
		International Sales Co. ....	330	United States Air Conditioning Corp. ....	819
		Iron Fireman Corp. ....	319, 321, 323	United States Radiator Corp. ....	429, 431
				Utility Appliances Corp. ....	807
		Jefferson Electric Co. ....	222		
		Jenkins Bros. ....	108	Vernon Mfg. Co. ....	618
		Johnson Service Co. ....	601	Viking Mfg. Corp. ....	347
		Joy Mfg. Co. ....	113	Vulcan Radiator Co. ....	320, 322
		Keeney Publishing Co. ....	315	Waterman-Waterbury Co. ....	244
		Kennard Corp. ....	841	Webster Electric Co. ....	229
		Kewanee Boiler Corp. ....	407	Webster Engineering Co. ....	455, 457
		Kritzer Radiant Coils, Inc. ....	107	Weil-McLain Co. ....	250
				Westinghouse Electric Corp. ....	725
		Lewin-Mathes Co. ....	417, 419	White-Rodgers Electric Co. ....	606
		Libbey-Owens-Ford Glass Co. ....	434	Worthington Pump & Machinery	
		Lille-Hoffmann Cooling Towers, Inc. ....	834	Corp. ....	312, 314, 411, 413
		Lima Register Co. ....	227		
		Little Giant Vaporizer Co., Inc. ....	125	Yarnall-Waring Co. ....	802
		Lockformer Co. ....	317	York Corp. ....	736, 740
		LoneStar Gas Co. ....	472		
				Zink Co., John ....	609
		McDonnell & Miller, Inc. ....	230	Zone Heat Regulator Co. ....	412
		Marley Co. ....	410		
		Marlo Coil Co. ....	605, 607		
		Mid-Continent Metal Products Co. ....	468, 470		
		Midwest Air Control-Midwest			
		Automatic Control Co. ....	643		
		Milwaukee Gas Specialty Co. ....	456, 458		
		Minneapolis-Honeywell			
		Regulator Co. ....	744, 745		
		Mitchell Mfg. Co. ....	629		
		Morse-Smith-Morse, Inc. ....	128		
		Mueller Furnace Co., L. J. ....	304, 308		
		Multi-Vent Div.,			
		The Pyle-National Co. ....	432		
		Mundet Cork Corp. ....	245, 247, 249		
		Nelson Corp., The Herman ....	440		
		Nesbitt, Inc., John J. ....	633		
		Niagara Blower Co. ....	741		
		Norman Products Co. ....	404, 406		
		Ohio Foundry & Mfg. Co. ....	464, 466		
		Oran Co. ....	248		
		Outside Venetian Blind Co. ....	718, 714, 710		
		Owens-Corning Fiberglass Corp. ....	112, 114		
		Pacific Steel Boiler Div., United			
		States Radiator Corp. ....	130, 132		

### Book Review

*Estimating Manual for Heating and Piping Systems* by Harry A. Erickson. 112 pages, 5 by 7½ in. Price \$3. Published by *Plumbing and Heating Journal*.

Air conditioning and refrigeration contractors who perform their own installations of steel piping for plumbing and heating systems, as well as those who sub-contract such operations may find this small book a helpful guide.

Estimating costs is a most important problem of the contractor, for an inaccurate estimate that is mistakenly too high may cost him the job, while one that is erroneously too low could force him into bankruptcy, regardless of the quality of the engineering and installation involved.

The earlier chapters of this book deal with estimating procedures, but the most value will probably be found in the 70 some tables listing the time required for different operations in piping. For example, the tables give the time for setting sleeves of the various types, setting inserts, erecting typical pipe hanger brackets, handling one and two-rod pipe hangers, one and two-pipe risers, typical radiator branches, unit heater connections, cutting and threading pipe, making up screwed fittings, etc.

It should be remembered in using the book that it is intended to serve as a guide rather than a flat pronouncement as to just exactly how much time each job listed should require. Some contractors may find that the figures given can be applied directly to their operations while others will find it necessary to employ a "correcting factor" in using the data from the book.

Too great a difference between the times listed in the handbook and those encountered by the contractor may indicate, however, that improper construction methods are being used and should therefore be corrected.

The author is said to have an extensive background in estimating, having been an estimator for many years as well as conducting estimating survey offices in various parts of the country.

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## HEAT PUMP COSTS: Chattanooga Data Shows Method For Estimating Year-Round Bill

CHATTANOOGA, Tenn.—Still thought of as "the heating method of the future" in many localities, the heat pump is definitely the "method of the present" in this southern metropolis.

There are several such installations here, and one at least has been in use since the fall of 1946. More are going in all the time, indicating the success of obtaining both winter heating and summer cooling through a refrigeration system.

Obviously, conditions here are favorable for the heat pump. The heating requirements are considerably less than in many northern cities, but heating is definitely necessary. In the season from October of 1947 through April of 1948, for example, there were 3,215 degree-days, compared with Chicago, which has an average annual total of 6,282 degree-days, or Minneapolis, with 7,966.

### Heat Source Important

In another important factor—the source of heat which is "pumped" into the residence or commercial structure—Chattanooga is favored. Ground temperature a few feet below the surface is about 59° F. the year-round, with approximately 1° variation over the seasons.

Very important, too, is the exceptionally low rate for power. Here the cost per kilowatt-hour runs between 6 and 7.5 mills.

And, of course, air conditioning in the summer as provided by the heat pump, is almost a necessity.

What, then, does it cost to operate a heat pump here? Some very interesting data along these lines was prepared recently by C. B. Osborne, sales promotion manager of the Electric Power Board of Chattanooga, who has been living with a heat pump installation in his home since October of 1946.

Writing in the *Electric Leaguer*, bulletin of the Electric League of Chattanooga, Osborne explained that he had a 3-hp. Marvair unit supplying winter heating and summer cooling for his six-room house. Of 4-in. brick veneer construction with 4-in. ceiling insulation, double wood floors, and with doors and windows weather-stripped, the structure has a volume of 9,632 cu. ft. and is figured to have a 66,000 B.t.u. heat loss at 65° t.d. Heat source for winter heating is a 4-in. cased well 235 ft. deep with 100 ft. of water at a year-round temperature of 59° F., according to Osborne.

After experiencing three seasons of heating (1946-47, 1947-48, and 1948-49), Osborne calculates that operation of the heat pump required 8,651 kwh., 9,365 kwh., and 8,749 kwh., respectively, for heating in these three periods.

### \$60 Bill for Heating

With the cost per kwh. of 6 mills, this would figure out as \$51.91, \$56.19, and \$52.49.

Actually, the power rate here varies from 6 to 7.5 mills, so the annual cost of heating Osborne's home averages about \$60.

Even at 1 cent per kwh. heating a 10,000-cu. ft. space with a heat pump in Chattanooga would cost but \$80 for the average winter season, Osborne says.

### 3-Year Power Consumption Shown for Heat Pump In Chattanooga Home

Year and Month	Degree-Days In Month	Kwh. Consumed
<b>1946</b>		
October .....	135	.....
November .....	434	900
December .....	688	1,408
<b>1947</b>		
January .....	716	1,781
February .....	590	2,095
March .....	421	1,861
April .....	172	606
<b>Total (heating) ..</b>	<b>3,156</b>	<b>8,651</b>
May .....	.....	529
June .....	.....	518
July .....	.....	694
August .....	.....	1,324
September .....	.....	814
<b>Total (cooling) ..</b>	<b>.....</b>	<b>3,879</b>
October .....	69	449
November .....	495	1,395
December .....	719	1,818
<b>1948</b>		
January .....	967	2,264
February .....	533	1,685
March .....	346	1,094
April .....	86	659
<b>Total (heating) ..</b>	<b>3,215</b>	<b>9,365</b>
May .....	.....	545
June .....	.....	782
July .....	.....	981
August .....	.....	872
September .....	.....	844
<b>Total (cooling) ..</b>	<b>.....</b>	<b>4,024</b>
October .....	234	726
November .....	395	1,181
December .....	636	1,789
<b>1949</b>		
January .....	477	1,693
February .....	460	1,274
March .....	425	1,287
April .....	217	799
<b>Total (heating) ..</b>	<b>2,844</b>	<b>8,749</b>
May .....	.....	392
June .....	.....	701
July .....	.....	1,327
August .....	.....	985
September .....	.....	545
<b>Total (cooling) ..</b>	<b>.....</b>	<b>3,950</b>

In his own home, Osborne maintained a temperature of 76° F. throughout the year night and day.

For summer cooling this meant a consumption of approximately 4,000 kwh. for each of three summer seasons. In 1947 maintenance of 76° F. during May, June, July, August, and September required 3,879 kwh.; in 1948, 4,024 kwh.; and in 1949, 3,950.

If figured at a rate of 7 mills per kwh. summer comfort cost Osborne \$27.15 in 1947; \$28.17 in 1948; and \$27.65 in 1949.

Thus for the past three years at a cost slightly under \$90 a year Osborne has enjoyed the comforts of a constant year-round temperature plus all the other advantages of air conditioning.

As for figuring the cost of operating the average heat pump, Osborne cautions that "many local factors affect the answer."

"The size of the house and the capacity of the equipment (horsepower rating of compressor motor, blower motor, and circulating pump motor); the severity of the climate

where the unit is operating; the electric rate of the utility; and the living habits of the occupants all have a strong bearing on heat pump operating costs.

"A cost yardstick which might be used as a general guide for your locality would be approximately as follows:

"Figuring up the number of cubic feet in the living spaces of your home; secure from local sources (such as the U. S. Weather Bureau office or local heating engineers) the number of degree-days in your local annual average heating season; ask your local electric utility what the cost per kilowatt-hour would be for operating the heat pump.

"Let's assume that your house contains 10,000 cu. ft. of space to be heated; that the number of degree-days in your local annual average heating season is 3,200, and that the operating cost per kilowatt-hour is 1 cent. Using a fourth factor of .25 (which happens to be kilowatt-hours per degree-day per 1,000 cu. ft.), and setting up a multiplication equation, we have as follows:

"10 (thousands cu. ft.) x 3,200 (degree-days) x .01 (cost per kwh.) x .25 = \$80 annual heating cost.

### Cooling for Half-Price

"In Chattanooga with a cost per kilowatt-hour of between 6 and 7.5 mills instead of 1 cent as above, the annual cost would be approximately \$60. The cost of cooling for an average summer season will be less than one half of the heating cost," Osborne explains.

Installation costs of a heat pump such as the Marvair will vary, just as the operating cost does, he said, explaining that "the best answer to this question is that the cost of a Marvair installation is about the same or only slightly higher than a first class automatic heating plant plus a full-scale air conditioning job for the home under consideration.

"In some localities a good well can be obtained at a shallow depth and in others drilling to a considerable depth is required to strike an adequate water supply.

"If you must have a dollar index figure for a Marvair installation, \$3,000 for the 3-hp. job and \$4,000 for the 5-hp. job will serve as a 'shotgun estimate,' disregarding all local factors. Perhaps under particular local conditions the figure would be less or more."

This manufacturer of heat pumps offers the unit in several sizes, and Osborne suggests that on the average "a 3-hp. unit will serve a generous sized five-room house or a medium sized three-bedroom six-room house. The 5-hp. unit will serve a good sized six or seven-room house.

"Of course, several factors enter into the choice of unit capacity for a given house," he adds. "The climatic location of the house, the calculated heat loss and heat gain of the structure, and the earth water supply temperature are important."

### 9 Installations Described

Besides giving the detailed account of Osborne's experiences with his heat pump system, this section of the *Electric League's* publication briefly described nine other residential heat pump installations and a commercial system.

Of these nine homes, two have 3-hp. units, six have 5-hp. machines, while the ninth, a large home with a volume of 47,650 cu. ft. of conditioned space, is equipped with two 3-hp. units and a 5-hp. heat pump, with 15 kw. of electric space heaters as a safety factor.

Chattanooga's first experience with a commercial heat pump installation is being obtained this winter at the clinic of Dr. F. L. O'Conner, a newly constructed 13-room, 3-bath building equipped with a 7½-hp. 3-phase Marvair heat pump.

Instead of obtaining its heat from

the conventional type well, this installation is taking advantage of an adjacent lake. Some 1,200 ft. of 1½-in. pipe has been sunk in a large circle on the bed of the lake, which is just across the road from the building. A 3-hp. pump circulates water from the heat pump through the pipe coils in the lake.

Fed from a huge cave spring, the lake will cool the coil for summer air conditioning, and should provide ample heat transfer for winter operation of the system.

J. W. Brooke & Sons, who made the installation, employed a pontoon barge to lay the pipe coil on the lake bed.

Designed by Frank Rice of Norton & Rice, Memphis architects, the clinic building is of concrete construction, vermiculite insulation having been mixed in with the concrete. "Tilt-up" construction was used, the wall, roof, and partition sections being poured in forms on the ground and then raised into place.

### Ga. Theater Gets Air Cooling

THOMSON, Ga.—Standard Construction Co., of Columbus, has begun construction of the new Martin Theater building here, which will have a seating capacity of 1,081 and will be completely air conditioned. It is expected to be completed sometime in May.

### Bruce I. Elliott Incorporates

NEW YORK CITY — Bruce I. Elliott Co., Inc., which will deal in ventilating and atmospheric renovation equipment, has filed articles of incorporation. Directors are Elsie M. Kiely, Jerome Gold, and Jeanne Berger, all of New York City. Capital stock was listed as 200 shares.

### Marsh Corp. Makes Barnett Assistant Sales Manager

SKOKIE, Ill.—R. E. Barnett has been promoted to assistant sales manager of Marsh Instrument Co., sales affiliate of Jas. P. Marsh Corp., it was announced recently by James Emmett, Jr., sales manager.

Barnett has been with the Marsh organization for the past nine years in a sales capacity with headquarters at the company's home office here.

Among his new duties, Barnett will work in close contact with the company's nationwide sales organization to promote and maintain coordination with the home office.

### Bush Named Viking Agent In Northeastern States

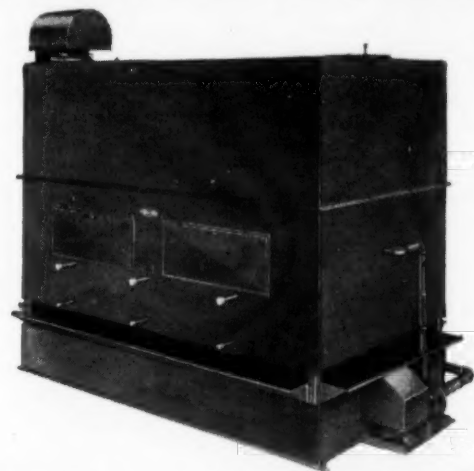
CLEVELAND — Frank Gibbons, sales manager of Viking Air Conditioning Corp. here has announced the appointment of Lyall M. Bush of West Springfield, Mass., as northeastern sales representative.

Bush will offer help to furnace manufacturers on the adaption of Viking blowers and humidifiers to their products. In addition to service work with furnace and air conditioning manufacturers, he will call on furnace wholesalers in the New England states, metropolitan New York, and northern New Jersey.

Bush expects to work closely with distributors in the training of their sales and service personnel on the application of humidifiers and blower package units to convert present home heating plants to the benefits of winter air conditioning.



## Where Water Is the Problem... CHOOSE GOVERNNAIR EVAPORATIVE CONDENSERS



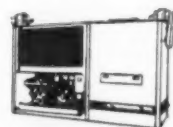
If you think a camel goes a long way on a little water... then you should see this Governair Evaporative Condenser operate! Save up to 95% of water normally used by water-wasting type condensers! Eliminate waste-water disposal problems and pumping costs, too. Engineered to give maximum efficiency and performance at a minimum cost.

Choose a Governair Evaporative Condenser, and forget those water problems!

Governair Evaporative Condensers are also furnished as an integral part of universally acclaimed Governair Packaged Air Conditioners.



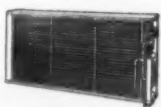
AIR CONDITIONER



COMPLETELY PACKAGED AIR CONDITIONER



UNIT COOLER



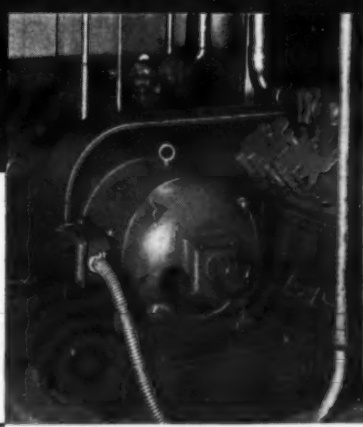
BLAST COILS FOR HEATING & COOLING

ORIGINATORS OF COMPLETELY PACKAGED AIR CONDITIONERS



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Schnacke advance engineered compressors feature refrigerant cooled, replaceable cylinder sleeves, balanced forged crankshafts, positive forced feed lubrication, efficient suction and discharge valves, insert automotive type bearings, etc. High efficiency and trouble-free operation with little vibration assure satisfaction. Thousands of

discriminating engineers and users the world over are convinced of Schnacke quality through proven performance.

Schnacke Compressor Units range from 5 H.P. to 50 H.P. and Condensing Units from 5 H.P. to 25 H.P. Write for further information.

1016 E. COLUMBIA ST.

**SCHNACKE, INC.**

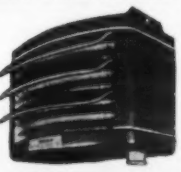
EVANSVILLE, IND.



### DIFFUSING TYPE UNIT HEATERS

FOR LOW PRESSURE STEAM & HOT WATER

60" Rounded front. Easy to install and Service. Hand-somely finished.



Wall Model 6 WH

Manufactured by **MERCHANT & EVANS CO.** PHILADELPHIA 46, PA.



'How To Live Better . . . For Less!'

## New Year's Resolution Advertisement Urges Public To Rent Freezer Lockers

ROCHESTER, N. Y.—B-B Freezer & Locker Co., 53 Canterbury Road, launched a new year promotional campaign to increase locker rentals and storage business, built around the theme: "How To Live Better . . . For Less!"

A large newspaper advertisement was employed to inaugurate the program urging Rochester area residents; "Resolve now to make your food dollars go farther in 1950. Rent a B-B Freezer Locker."

The advertisement pointed out that the plant has over 1,000 freezer lockers, the largest customer frozen storage plant in Rochester. It is easily accessible to a large residential area.

Each locker holds about 200 lbs., the advertisement explained, "enough to supply the average family with choice meat bought at low market prices to hold in storage for some later date."

Customers were invited to budget their locker payments and no down payment was required. They were given the option of paying in weekly or monthly instalments.

In offering locker rentals as low as \$8 a year, the firm pointed out this comes to only slightly more than 2 cents a day. The company stressed "guaranteed storage protection," declaring customers have the same protection provided by a safety deposit box in the bank.

Said advertisement copy: "It won't

cost you one cent to come in and let us tell you how to stretch your food dollars with the use of a B-B Freezer Locker.

"Our locker tenants are saving money through buying their meats (all top-grade, government-inspected, of course) from us at only a few cents above our cost. This low-price policy is made possible because the major part of our business is done with some of the city's finest hotels, clubs, and restaurants. These meats are bought in carload lots at tremendous savings from over-the-counter prices and these savings are passed on to our locker customers.

"Purchases may be made in large or small quantities to suit your needs and processed for storage at minimum cost. Meats cut to your specifications. Evening and Sunday appointments, if desired."

## Munhall Retires After 43 Years with Same Firm

BUFFALO—James A. Munhall, for 43 years an officer of the Buffalo Electric Co., Inc., and its predecessor McCarthy Bros. & Ford, appliance distributor, has retired.

Munhall joined the original firm in 1906. Through succeeding years he held the offices of secretary, treasurer, and vice president.

## Barber Heads Promotion, Adv. at Perfection Stove

CLEVELAND—Walter M. Barber has been named sales promotion and advertising manager of Perfection Stove Co., a newly-created post, the company announced recently.

Since early 1942 Barber has been manager of Perfection's Cleveland district sales office. He first came to the company in 1915, to engage in sales promotional work. In 1917 he was named manager of the St. Louis, Mo., district sales office.

In 1919 he went to Europe to act in a sales promotional and advertising capacity for Perfection Stove Co. Under his direction the stove and heater department of Perfection's distributors in the United Kingdom was organized. He also introduced Perfection-made products into the Scandinavian countries.

In 1924, following several years residence abroad, Barber took a trip around the world, from New Zealand to northern Manchuria, as a representative of his company. He introduced the Perfection name and products into such countries as India, Arabia, Palestine, and Egypt.

Following his trip around the world, Barber was recalled to the United States and organized the company's Philadelphia branch, which he managed for two years.

In 1929 he was named to head the then new Superflex oil-burning refrigerator division.

When World War II curtailed production, Perfection discontinued the manufacture of its oil refrigerator line and Barber became Cleveland district sales manager.

## Major Appliance Volume In Knoxville Area for Sept. Reported Well Above Levels of 1948 Except for 3 Items

KNOXVILLE, Tenn.—Sales of major appliances here during September were well above those of September last year with the exception of washing machines, waste disposal units, and ironers, reports issued by the Knoxville Utilities Board have revealed.

The September report, compiled from 27 dealers, showed home freezer sales at a booming 425% over 1948. Refrigerator sales were up 95%,

dishwashers 80%, ranges 55%, and water heaters 27%.

Ironer sales were at the same level as last year. Washing machines were down 13% and waste disposal units 83%. In the case of washing machines, however, the dollar value of this year's sales exceeded that of September, 1948, though 50 fewer units were sold.

Unit sales and dollar value for September 1948 and 1949 were as follows:

Appliance	Units	1948 Value	Units	1949 Value
Home Freezers	4	\$ 1,670	21	\$ 6,909
Refrigerators	178	46,628	348	96,204
Ranges	158	40,344	244	46,405
Water Heaters	65	8,016	83	10,845
Dishwashers	5	1,750	9	1,869
Waste Disposal Units	6	737	1	125
Washing Machines	366	59,093	316	59,443
Ironers	19	2,739	19	2,380

## 'Brown 'N' Serve Rolls' Advertised as Ideal To Store In Freezer

ERIE, Pa.—The possibility of bakeries making an extensive entry into the frozen food field was seen here as Fitch's Baking Co. launched an extensive promotional campaign on its new "Brown 'N' Serve Rolls."

These rolls are prepared in dough form by the bakery and sold in packages of a dozen. The bakery tells patrons that they are ideal for storage in the home freezer for an indefinite period.

The bakery emphasizes that the rolls have certain limitations as to keeping qualities. They can be kept in an ordinary refrigerator for about two weeks but for indefinite storage the bakery says a freezer is necessary.

Fitch's promotes the rolls to add new interest to lunch and dinner menus with hot rolls from the oven. The bakery stresses their time and work-saving features, pointing out the housewife has hot rolls to serve in 7 minutes.

"Here's all you do," instructs the bakery:

1. Remove rolls from wrapper and tray.
2. Pre-heat oven to 425°.
3. Place rolls on ungreased baking sheet.
4. Bake 7 to 10 minutes, remove from oven and serve.

## Insurance Firm To Try Loans to Small Business

NEW YORK CITY—A new department to handle loans to small business has been formed by the Metropolitan Life Insurance Co., it was reported here recently.

Leroy A. Lincoln, president of the insurance firm, asserted that Metropolitan intends to try to find out through practical experience whether there is a demand for new loans to small business appropriate for the investment of life insurance funds.

Officials indicated that the company would take 90% of sound small business loans if local banks would accept 10% and service the loan.

## VFW Survey Shows 8% Of GI's Using Pa. Bonus for Appliances

PHILADELPHIA — The largest state bonus in history, to be paid to veterans of World War II, will considerably swell sales of major appliances in this area, a recent survey reveals.

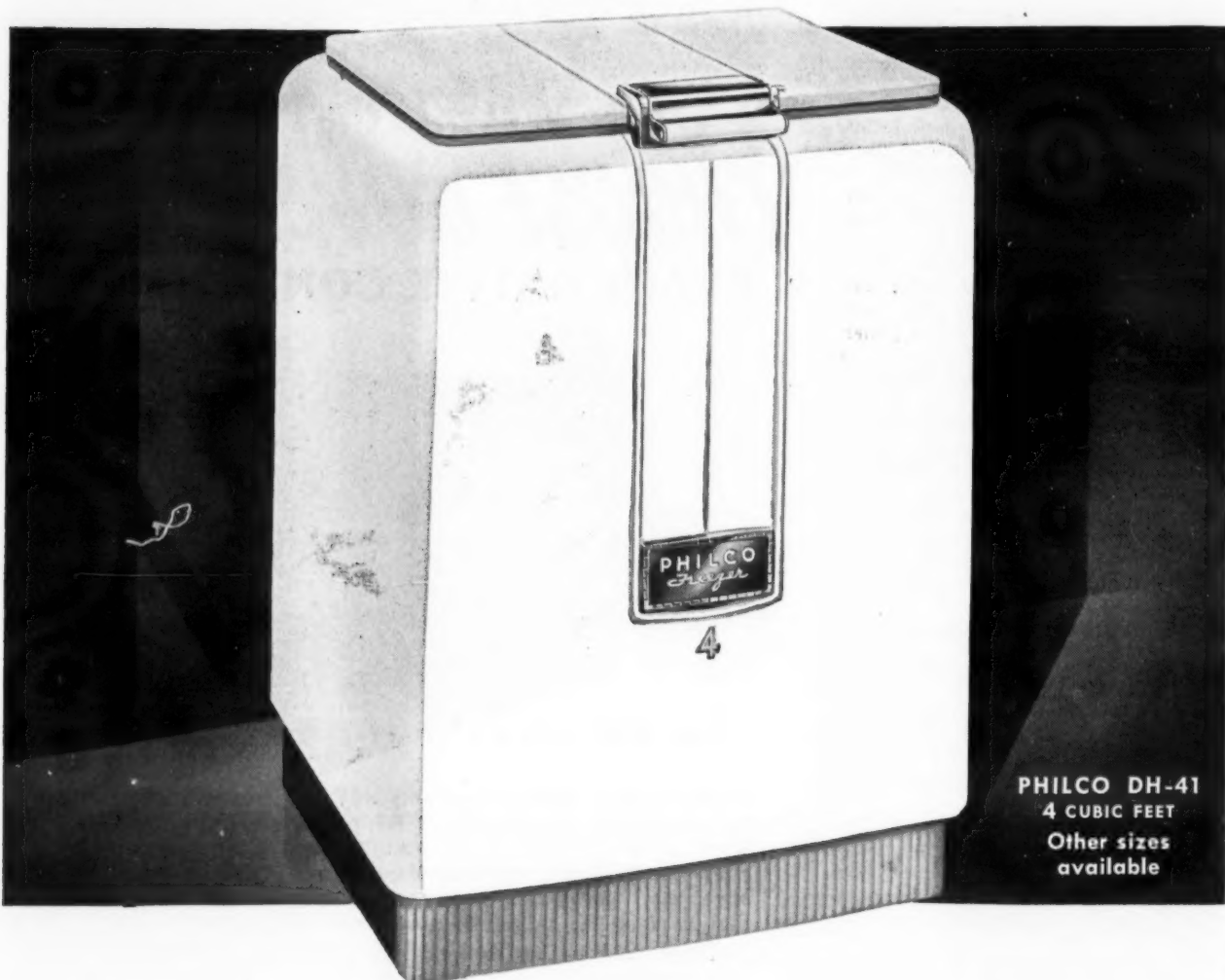
Pennsylvania's \$500,000,000 appropriation, all of which goes to veterans, many of whom are starting out on married life, will be a real boon to low-income purchasers, it was indicated by the survey conducted by the Veterans of Foreign Wars.

Approximately 8% of the cross-section of veterans interviewed stated that they will immediately buy new appliances, ranging from refrigerators to complete all-electric kitchens, with the money.

Another 4% will expend their funds for the purchase of new furniture, it was likewise announced.

## DON'T MISS THIS PLUS PROFIT OPPORTUNITY IN 1950

Yes, there's money in selling Philco Freezers. But for locker plant operators, the sale of a Philco is only the beginning of new profits . . . from increased sales of packaged frozen foods and from greater demand for processing service. Find out now why so many locker plants sell the sensationally popular Philco Freezer.



PHILCO DH-41  
4 CUBIC FEET  
Other sizes available

## THE SENSATIONAL PHILCO FREEZER

... perfect team-mate for the rental locker

### FEATURES THAT SELL ON SIGHT!

- Temperatures as low as 15° below zero!
- Counterbalanced Lid.
- Latch has Locking Lever.
- Temperature Control.
- Automatic Guardian Bell rings if current fails.

RENTAL LOCKERS for bulk storage of customers' "frozen assets"—plus handy 4 cu. ft. Philco Freezers for home supplies, making frozen foods available for every meal. That's the combination that is keeping business humming in all departments of many successful locker plants. And you'll find a Philco easier to sell because of its greater public acceptance . . . its exclusive features and efficient, care-free operation . . . its deluxe appearance. Yes, from every standpoint, the Philco Freezer offers locker plants the greatest plus profit opportunity of 1950. Write today for the facts—to Philco Corp., Phila. 34, Penna.

Available in 4 and 8 cu. ft. sizes to fit your customers' needs

## Here's Your New HARRY ALTER'S DEPENDABOOK! NO. 151



**Bargains! BARGAINS!**  
Page after page of bargains in refrigeration parts and supplies—some 60% below standard prices. Everything guaranteed as described—money-back guarantee . . . 2% discount for cash . . . Get the new DEPENDABOOK and stock up. Buy your 1950 needs NOW!



"Service Doesn't Falter When It Comes From Harry Alter"

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1728 SOUTH MICHIGAN AVENUE, CHICAGO 16, ILLINOIS

**REFRIGERATION PARTS CATALOG**

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## In Western Illinois



HAROLD STAMPS

### Harold Stamps Becomes Agent for Service Parts

MELROSE PARK, Ill. — Appointment of Harold Stamps as western Illinois sales representative was recently announced by Service Parts Co. here.

Stamps is well known in the refrigeration field, having been on the Henry Valve Co.'s sales staff for the past three and a half years.

Prior to entering the Seabees during the war, he was design engineer in air conditioning, ventilating, and heating for Giffels and Vallet, architects and engineers of Detroit. He also served five years as a sales engineer with the Jas. P. Marsh Corp.

Besides being a registered professional engineer in the State of Illinois, Stamps is also an active member of ASHVE.

Service Parts is one of the largest wholesalers in the refrigeration and heating industries.

#### Free Pickup and Delivery

HAMILTON, Ont., Can. — Mills Electric, 749 King St. E., promotes its repair business by offering free pick-up and delivery on anything electrical that needs repairing.

## Members of Big Service Staff Who Specialize In One Or More Appliances Help Dealer Handle Jobs Speedily

HAMPTON, Va.—Putting emphasis on service and building up the service department to a strength of 15 full-time mechanics and two delivery men has resulted in a 300% sales increase over 1941 for McLean's, appliance dealership here.

The McLean firm, authorized Chrysler Airtemp air conditioning dealer, went into appliance retailing shortly before the war. Experience with service during the conflict taught "Mac" McLean and Joe Nixon, heads of the firm, the advisability of "emphasizing service first" in post-war merchandising operations.

Operating two outlets, the largest of which is in Hampton, a community of 8,000 people, and the second in Hilton, 10 miles away, McLean's has made an issue of service.

Used are newspaper advertising, two radio programs per day, a series of billboards along major highways, and direct mail all playing up the fact that McLean's services everything itself, and merchandises second.

The big service department is located at the Hampton store where 15 mechanics and helpers are on duty. The group is divided into specialists in various types of appliances, and the firm can service with equal ease, refrigerators, air conditioning units, home freezers, commercial equipment, water heaters, ranges, washing machines, and many other items.

#### SERVICING MAKES NEW SALES

The shop maintains a complete inventory of parts for each appliance line, and can thus guarantee quick overhaul or repair service which has a lot to do with "where the prospect buys his next new appliance," as Nixon put it.

Outside sales are in the hands of a crew of six specialty men, on a commission payment plan which permits commissions of 7%, 10%, 11%, and higher according to the nature of the appliance involved.

Each salesman receives "tips" from the service crew, as well as from advertising, but is required to do a certain amount of "cold canvassing" as well, according to Nixon.

One of the most important factors contributing to the excellent sales volume rung up by the firm is the

ability to handle trade-ins efficiently, according to McLean.

Shortly after the war, the McLean firm began advertising "worthwhile allowances" in competing for appliance business, at least a full year before similar offers were made by other dealerships.

Making this possible was the establishment of a separate "trade-in store" a few blocks from the main Hampton store, which is divided into separate departments for all basic major appliances.

#### 30-90 DAY GUARANTEE SET

Each, thoroughly reconditioned in the shop, is repainted, refinished, and guaranteed from 30 to 90 days, according to the type of appliance.

Due to the large numbers of low-income customers in the area, it is seldom that any appliance stays in the store a week, and refrigerators and washing machines usually turn over in as little as two days, according to Nixon.

The ticklish matter of making allowances on trade-ins has been solved through a plan, developed by McLean after long tests were conducted.

Under the plan developed, salesmen may never allow more than 10% of the total sales price of the new appliance concerned, and are urged to hold the allowance within 5% if possible.

This amount, it is felt, gives a fair allowance to the homeowner, and permits a "spread" for repair and

reconditioning which will permit the trade-in store to show a small profit.

Gross profits average only from 15% to 25% on trade-in appliances, but this amount suffices to pay haulage cost, reconditioning cost, the overhead of the separate trade-in store, and a separate advertising program, according to McLean.

Complete records are kept on all trade-in refrigerator sales for example, and are followed up two years later with the suggestion that the prospect buy a new box.

"We think that the separate trade-in store is valuable for many reasons," McLean indicated. "First, it keeps the main showroom stocked entirely with brand-new appliances."

"Second, we can frequently grade-up the low-income customer to better-priced appliances. Third, the goodwill established in this way, bringing in customers we might never contact otherwise, often means that when the time comes for the purchase of new appliances, we will get the business."

#### Larger Home Appliance Dept.

#### Opened at Jamestown, N.Y. Store

JAMESTOWN, N. Y.—A new home appliance department has been opened on the street floor of Nelson's department store as a feature of the store's expansion program. The new location, directly inside the entrance, is an advantageous one. The department is larger than its predecessor.

## Purchase of Coldew Corp. Results In Name Change

MAYWOOD, Calif. — Berger H. Bakke has announced that he has purchased the physical assets, excluding the real estate and plant, of Coldew Corp. of South Gate, Calif. and has formed the Coldew Mfg. Co. here.

The new plant is located at 4459 E. 52nd St., Maywood, in suburban Los Angeles.

Bakke stated:

"I will continue to manufacture walk-in refrigerators, and walk-in, reach-in refrigerators with special emphasis on the manufacture of very low-temperature refrigerated cabinets."

The new firm's letterhead also lists beverage coolers, reach-in refrigerators, and custom-built refrigeration among its products.

## Ansul Chemical Corp. Elects 4 Directors

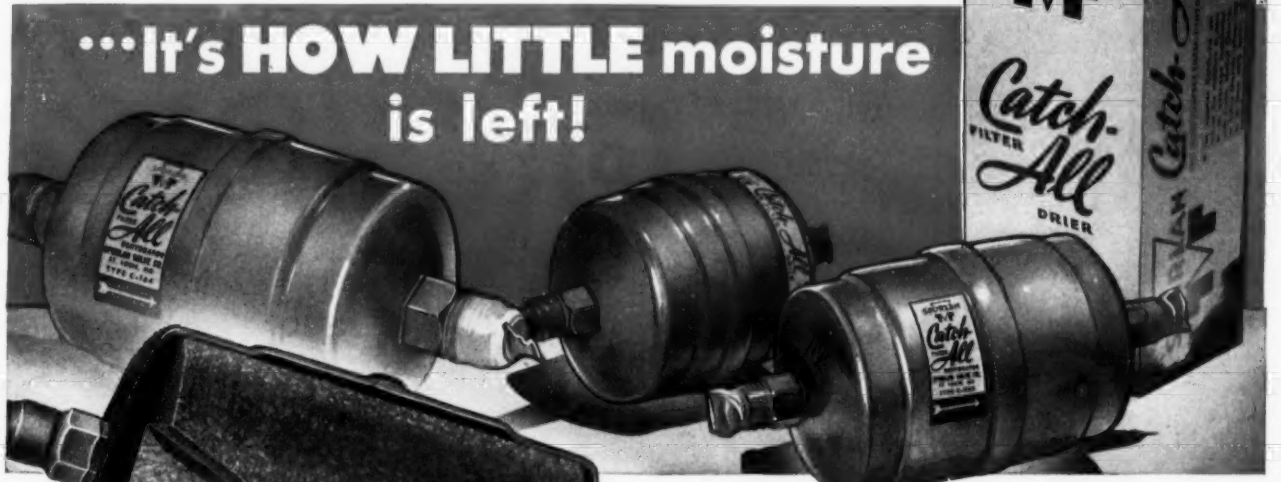
MARINETTE, Wis.—Ansul Chemical Co., announced recently the election of four new directors.

They are Leonard C. McKesson, vice president in charge of sales; Arthur C. Pope, vice president in charge of manufacturing; Stanley R. Holmquist, treasurer, and A. J. Whitford, president of the First National Bank of Marinette, Wis.

Whitford's election marks his first business connection with Ansul, which has its factory in Marinette and sales branches in the principal cities of the United States.

More and More...Engineers Agree  
that It's not **HOW MUCH** moisture  
you remove from a refrigeration system  
that counts...

...It's **HOW LITTLE** moisture  
is left!



That is why they install a  
**SPORLAN CATCH-ALL**  
when they really want to dry  
a system.

They know that the Catch-All is the  
Perfect Filter-Drier because it dries  
down to a Low End Point... a point  
So Low that any remaining  
moisture is  
absolutely harmless!

why is the  
**SPORLAN**

*Catch-All*

THE PERFECT FILTER-DRIER?

because

Its unique, porous cylinder is made up of minute particles of a highly efficient desiccant, whose efficiency is greater than that of the same desiccant in granular form.

because

After being completely assembled, it is activated to a high degree of dryness and immediately sealed with moisture proof seals to prevent any moisture from entering before installation.

because

It cannot powder!

because

It cannot pack!

because

The refrigerant cannot channel!

because

Being scientifically molded to provide progressive filtering it filters any foreign matter as minute as 9 microns with negligible pressure drop.

Having a molded, porous cylinder, the Catch-All is inherently free from powdering, packing, and channeling. Designed scientifically to give maximum contact of refrigerant and desiccant, the Catch-All is a perfect filter and a perfect drier.

When you want clean Bone-Dry refrigeration systems...  
install Sporlan Catch-Alls and get Peak Performance on all installations

**SPORLAN VALVE COMPANY**  
7525 SUSSEX AVE. • ST. LOUIS 17, MISSOURI  
THE CATCH-ALL IS OBTAINABLE AT ALL SPORLAN WHOLESALERS

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REPLACEMENT UNITS

are available in a complete range of sizes—including the larger models for use in Commercial and Semi-Commercial Compressors, such as:

BAKER	CURTIS	MILLS
BRUNNER	FRIGIDAIRE	PAR
CARRIER	GENERAL ELECTRIC	UNIVERSAL COOLER
COPELAND	KELVINATOR	WESTINGHOUSE

and others

MORE THAN  
848  
MODELS



AT ALL  
LEADING  
JOBBER'S

Certainty!"

2020 NORTH LARRABEE STREET  
CHICAGO 14, ILLINOIS, U. S. A.  
CANADIAN AGENT: 2025 ADDINGTON AVENUE  
MONTREAL 28, QUEBEC, CANADA



## INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

to exist; and those in power might remain there indefinitely and make impossible any substantial changes in our social and economic system. . . .

"I charge you that if the defendants did no more than pursue peaceful studies and discussions or teaching and advocacy in the realm of ideas you must acquit them. . . . Do not be led astray by talk about thought control, or putting books on trial. No such issues are before you here. . . .

"You must be satisfied from the evidence, beyond a reasonable doubt, that the defendants had an intent to cause the overthrow or destruction of the Government of the United States by force and violence . . . as speedily as circumstances would permit it to be achieved. . . .

"I charge you that it is not the abstract doctrine of overthrowing or destroying organized government by unlawful means which is denounced by this law, but the teaching and advocacy of action for the accomplishment of that purpose, by language reasonably and ordinarily calculated to incite persons to such action. . . .

"No such intent could be inferred from the open and above-board teaching of a course on the principles and implications of Communism in an

American college or university, where everything is open to the scrutiny of parents and trustees and anyone who may be interested. . . .

"That is why it is so important for you to weigh with scrupulous care the testimony concerning secret schools, false names, devious ways, general falsification and so on, all alleged to be in the setting of a huge and well-disciplined organization, spreading to practically every state of the union and all the principal cities and industries."

### An American Philosopher Thinks Out Loud

"Economic changes may be like ripples or waves or tides or tidal waves. As we attempt to appraise the changing economy, each of these manifestations is clearly apparent to all but those of very limited vision," states Economic Statesman Louis Ruthenburg, the eminently philosophic Chairman of the Board of Servel, Inc.

"We all know that the world economy is profoundly influenced by the reactionary philosophy of Statism—which denies the infinite importance of the individual and subordinates all of his interests to the supremacy of the state. Such cataclysmic revolutionary thinking can be likened to a tidal wave which has an unimaginably destructive potential.

"The future economic trend," he continues, "is not a function of wealth in mass but of wealth in motion. The important element of velocity is the result of many decisions on the part of many millions of people. Such decisions are not predictable. That, in my opinion, is the

reason why our economists, statisticians, and government oracles cannot arrive at agreed forecasts.

"Disposable income, with which eager buyers bid for scarce articles only a few months ago, now seeks refuge in savings accounts while surplus items of this nature rust in their many repositories.

"In New York it is said that the highest hotel floors are reserved by the fur trade—for jumping purposes.

"Unhappily, we are ill prepared to deal with these conditions. For nine long years the arts of selling have not been practiced. If you do not use your muscles, they atrophy and become useless. Tools unused for years are destroyed by rust.

"Today's salesmen and sales executives are like farmers who for nine long years have not been required to plow a furrow. Not only have they lost their skill, but they will find all manner of excuses for not returning to their plows.

"Moreover, our surviving pre-war salesmen and sales executives are nine years older than they were in 1941, and the inactive years have taken their toll.

"Such disabilities afflict the entire distributive system—not only manufacturers' sales personnel, but that of distributors, jobbers, utilities, and retailers. The deterioration of retail selling manpower as to both quantity and quality is one of our most serious handicaps.

"Wherever we make purchases it becomes increasingly evident that inexperienced youngsters, newly recruited for selling, will have to help us solve our problems. These youngsters need only to be taught how to sell. Supported by sound training, leadership, and inspiration, these

youngsters may carry us forward.

"Wherever selling organization and effort have been sustained, new sales records are being made. I know a great midwest utility that for years has maintained a well-paid, enthusiastic, effective sales force without interruption. For years this organization has cooperated splendidly with appliance dealers. Notwithstanding competitive pressures that have developed, this utility has consistently sold more refrigerators every month than it sold in the corresponding month a year ago.

"This utility management apparently believes, with Emerson, that 'This time like all times is a very good one if we know what to do with it.' Concerning this philosophy of sales organization, the vice president of this utility has this to say:

"A hard-hitting sales organization cannot be built in six months or one year. It takes years, after a sound philosophy of selling is organized, to build up the right people, from the salesmen up through the sales supervisors who thoroughly understand this philosophy, then go out and work, and this can be done without a lot of time wasted in meetings, as too many meetings kill sales enthusiasm and waste precious selling time.

"During the past seven or eight years, sales organizations and industry in general have been bombarded with surveys, clinics, meetings, market research, personnel studies, etc., to such an extent that we have forgotten the old-fashioned way of selling, which means getting back to hard work day in and day out."

"Those two brief paragraphs might well be pasted in the hat of every sales executive in the land. The crying need in our changing economy is for speedy revival of the lost arts of salesmanship.

"Salesmanship, comprehensively defined, is the vitally important element of our business tool with which we shall solve our major problems in a changing economy. In a very real sense, salesmanship is the keen cutting edge of the complex business machine—indispensably important—but useless and without dimension unless it is backed by other essential elements of the business machine and unless it is given proper propulsion and direction by management."

### Let's Get Going!

"I am convinced that the immediate revival and great expansion of imaginative selling activities offer the specific solutions for many problems that now press upon utilities, appliance manufacturers and American business generally," Mr. Ruthenburg continues. "Furthermore, I am greatly impressed with the urgency of our getting under way.

"Notwithstanding the importance and urgency of revived appliance selling, we must be much more concerned with full participation of business management in salesmanship of a higher order. Otherwise the rising tide of socialism which increasingly reduces the ability of business management to meet its many responsibilities will not be controlled.

"If we face the facts, we know that our changing political climate is increasingly unfavorable for business activity. The republic of the United States of America is being transformed rather rapidly into a socialistic state.

"Words are increasingly confusing. As I understand the terms, the Welfare State and the Socialistic State and the Garrison State and the Police State all mean the same thing. All may be accurately defined as way stations on the road to Communism. All have the same common denominator, which is progressive destruction of individual freedom.

"This transformation of the republic to a socialistic state means substituting supremacy of the state for our time-tested, beneficial culture based upon the freedom and responsibility and sacredness of the individual.

"Under the simple but tragically effective formula of 'tax, spend and elect,' business is used as an agency for collecting enormous tax funds with which all segments of our society are bribed into acquiescence.

"Unless American business management can somehow accomplish immediate and tremendous acceleration in the education of the rank and file of our fellow Americans, this republic, much earlier than most of us think, will degenerate into a socialistic state. Final transition could be much faster than the softening

process which already is so far advanced."

### Are We Men or Mice?

Statesman Ruthenburg pulls no punches when he states:

"Business management must either accept the challenge or, in a spirit of supine defeatism, await the deluge.

"Only in the business community is there to be found the knowledge and understanding, the financial means, the requisite selling ability and the impelling incentive. American businessmen have conclusively demonstrated their peerless ability to sell goods and services. The same techniques of advertising, promotion, and personal selling can be effectively used to sell the biggest bargain in the world—our privately owned, privately managed competitive system.

"Business management has at hand the essential tools, fully developed. Does business management have the vision and the will to do? Unless American business management can recreate a favorable climate, our best laid plans will come to naught.

"Each of us must clearly understand the exact nature of the cancerous growth that threatens our way of life so seriously and so immediately. Having acquired such understanding, we must exert our best efforts to transmit clearly and emphatically and repeatedly that knowledge to our fellow Americans at every level to which we have access—national; community; utilities; factories and other business organizations; and, most important of all, at the level of all of our schools.

"As a simple matter of self-preservation, the businessmen of America must stand up and be counted in opposition to the forces that are bringing about their destruction. To the preservation of our national ideals and institutions we must pledge our individual and collective resources of imagination, energy and substance.

"We all know the closing sentence of our Declaration of Independence—'And for the support of this Declaration, with a firm reliance on the Protection of Divine Providence, we mutually pledge to each other our Lives, our Fortunes and our Sacred Honor.' Let's accept this personal responsibility.

"From Toynbee's book 'Civilization on Trial,' I quote this hopeful observation:

"There seems to be no reason why a succession of stimulating challenges should not be met by a succession of victorious responses."

### Lagniappe

This is a story which should be credited to W. N. Connolly, advertising manager of S. C. Johnson and Son, Inc.

Came the time when a young Irishman departed for the United States to seek his fortune. All his Dublin friends and relatives gathered 'round tearfully with kerchiefs and dollops of Duggan's Dew of Kirkin-tilloch.

"Timmie, me boy," urged Mrs. Dunn, a neighbor, "Look up me son when you get there. See if he is well. Gone five years, he is, and never once is he writin' home."

Dutifully, Timmie promised he would.

"He lives in Connecticut," she added, "in a little brown shanty."

Finding Mrs. Dunn's son in Connecticut seemed like an easy assignment to Timmie, and so it turned out to be. Upon arriving in New York he asked how he could get to Connecticut the cheapest way. In no time at all he was aboard a bus, and it didn't take much longer for the bus to reach the Connecticut state line.

Timmie debarked from the bus at that point.

All he could see, after he stranded himself there, was a gone-to-seed formerly white house at first. But glory be! Behind it was a little brown shanty.

Trudging over to this shanty Timmie met a stranger. The latter, while emerging from the Chic Sale structure, absent-mindedly was re-arranging his attire (zipping up a zipper).

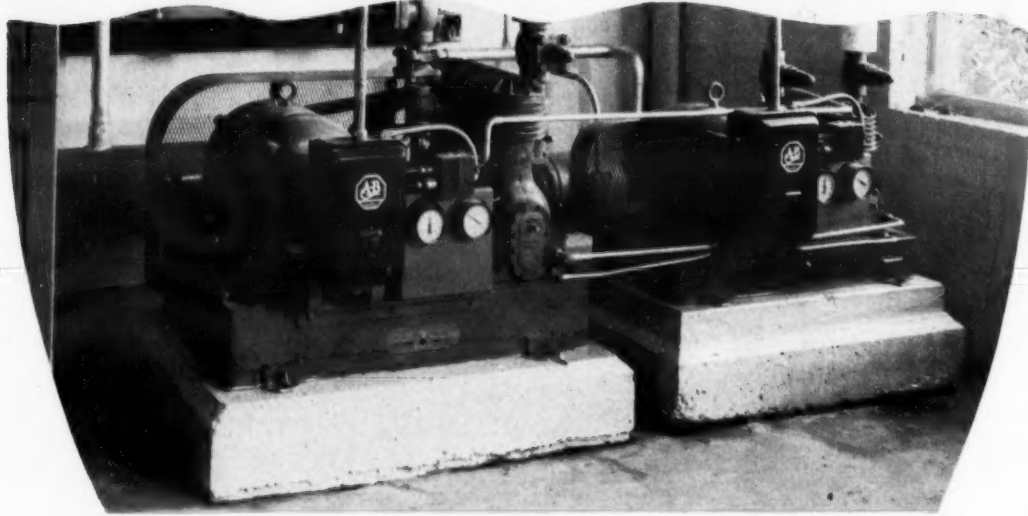
"Be you Dunn?" queruloused Timmie.

"That I am, son."

To the amazement of the Connecticut Yankee, Timmie exploded as follows:

"Why in the name of ould Erin don't ye write to ye're poor ould Mither?"

## Dallas' New Television Station KBTV is Baker Air-Conditioned



They do things right in Texas . . .

Thanks to Tom Potter, famous oil operator and financier, Dallas has "one of the best constructed and finest equipped television stations in America."\*

Built from the ground up for this one service, it embodies the latest improvements in layout and equipment. One of these is air conditioning — a necessity in the modern television studio. Two Baker Freon Compressors (XF1500H and XF750H) mounted on heavy concrete piers, operate quietly and without vibration. The installation embodies many new features specially developed to meet the exacting needs of video broadcasting, and was designed and installed by Texas Refrigeration Engineering Company of Dallas — the Baker Distributors.

Baker Distributors have a distinct advantage with Baker's enlarged line of compressors and condensing units, evaporative condensers, heat transfer products and improved "packaged" air conditioning.

\*From the Daily Times Herald, Dallas — Sept. 11, 1949

Well-established Distributors looking for a complete line and a really broad franchise will find the answer to both in Baker, the line backed by 44 years experience.



**BAKER REFRIGERATION CORPORATION**

General Offices and Factories: South Windham, Maine

BE SURE TO SEE BAKER AT THE SOUTHWEST AIR CONDITIONING CONVENTION, BOOTH 728



## NAED Names Pritchard, Johannesen to Staff Of Headquarters Group

NEW YORK CITY—Charles G. Pyle, managing director of the National Association of Electrical Distributors, has announced that, effective the first of the year, J. G. Johannesen and Philip M. Pritchard had joined headquarters staff.

Johannesen will serve in a special consulting capacity and Pritchard will be a special representative traveling throughout the country.

These increases in staff personnel have become necessary due to the great growth of the association in the last few years and the material expansion of its programs.

In its forty-second year, the National Association of Electrical Distributors is not only one of the oldest national associations of distributors in the country, but in the field of hard goods distribution it is also one of the largest, its membership being comprised of well over 900 electrical distribution houses located from coast to coast.

Johannesen, retired three years ago after many years' service with the General Electric Supply Corp., of which he was vice president, is a past president of the association.

Johannesen became associated with General Electric Supply Corp. in 1929 prior to which he was president of Southern Electric Co., electrical distributor located in Baltimore, Richmond, and Charlotte.

Pritchard was formerly connected with RCA, Sylvania Electric Products Inc., and until now director of sales of Victor Electric Products Inc. In his capacity as special representative, Pritchard will serve as liaison between association headquarters and the membership in the field. He will also be in contact with the non-affiliated distributors.

## Firm In India Seeks Aid Of U. S. Electrical Firms

WASHINGTON, D. C.—American capital and technical participation is being sought by the Electrical Corp. of India, Ltd., which desires to establish in India an enterprise for the manufacture of refrigerators, air conditioning units, and electrical motors, according to the Office of International Trade, U. S. Department of Commerce.

The firm is said to have already obtained a capital subscription of 1,040,000 rupees of an authorized 10,000,000 rupees, and seeks investment by American parties up to 20% of the total.

Among points for collaboration tentatively outlined by the firm is payment to the American investor of a royalty on net sales over a period of 15 years in the amount of 2% for the first five years, 1½% for the next five years, and one-half of 1% for the last five years.

The firm is particularly interested in hearing from smaller manufacturers of electrical equipment, but will also welcome inquiries from larger producers. Correspondence may be addressed to the company at Janmabhoomi Chambers, Fort St., Bombay 1, India.

## Distributorship Changes Name To Fit Industry Role

PHILADELPHIA — Motor Parts Co. here, appliance distributorship that has not handled automobile accessories for more than 15 years, has changed its name to the Stuart F. Louchheim Co., it was reported here recently.

The name is that of the firm's president. The change of name has not affected the policies of the company at all, it was revealed. Among the major products handled by the firm are Servel refrigerators and Fedders air conditioning equipment.

## Sales of Standard Washers Drop

CHICAGO — Household washer manufacturers sold 298,717 standard size units during November, the American Home Laundry Manufacturers Association reported recently. This was 10.5% below October and 6.4% below November, 1948.

Factory ironer sales totaled 35,000 units during November, 2.9% below October, and 16.6% under November, 1948.

## OUTSIDE SELLING: Dealer Gives 'Home Demonstrations' By Using Portable Movie Projectors

ST. LOUIS—One of the worst problems of "outside selling" of electrical appliances—home demonstrations—is being solved by The Appliance Arcade at Hampton Village Market here, through consistent use of portable movie equipment.

The Appliance Arcade is the only electrical appliance store in the Hampton Village, huge \$11,000,000 shopping project which has been building in southwest St. Louis since shortly before the war.

Capable of parking 2,500 cars and containing the world's largest supermarket in the center, the Hampton Village features 88 air conditioned individual shops, all leased to aggressive retail specialists who "had to prove they had something on the ball" before being privileged to lease one of the Williamsburg Colonial shops surrounding the parking lot.

Van Vancil, head of The Appliance Arcade, earned himself a spot in the "plush" village simply through expanding sales ideas a lot farther than

the average dealer is ever required to do.

First, although the store is small, it operates a crew of 10 outside salesmen, divided into two groups of five each, under a "district supervisor."

Backing them up, the store offers a basement cooking school, featuring regularly scheduled classes and seating 100, a direct-mail list of 5,000, and a newspaper advertising program budgeted at \$100 per month.

Every man receives equal amounts of floor time, and the huge number of leads accumulating from store contacts, satisfied customers, direct mail, and newspaper advertising are likewise divided among the sales crew.

Most unusual idea which Vancil has developed for outside-the-store selling, is a complete miniature movie projection set, which every salesman carries with him on calls.

"Outside salesmen have always been hampered on making home calls in that it was impossible to take the

appliance along for demonstration," Vancil noted, "and merely sitting down with the homeowner to exhibit catalog cuts and talk prices wasn't enough. Even hopping in the car, and bringing the prospect down to the store involved a lot of wasted time and expense.

"Therefore, each one of our salesmen goes on every call equipped with a 15-lb. kit, which includes a small movie projector, sound equipment, an 8½ x 11-in. screen, and a stock of movie reels covering every appliance line we carry.

"Instead of merely talking, he can set up his movie equipment on a table, mantel, etc., and show the customer forcefully why a specific appliance will benefit her."

Lines which Vancil "demonstrates" by means of the portable movie equipment, include Frigidaire, Magic Chef, Zenith, Ironrite, Iron Fireman, Easy, Thor, and others. While manufacturers' selling films will be helpful, Vancil plans to take his own movies

around "a typical St. Louis family" on the theory that these will produce a better impression.

"I believe that the use of the portable movie equipment will eliminate the worst drawback to outside selling," he summed up.

## Wilt Co. Becomes Factory Agent for Duchess Washers

ALLIANCE, Ohio—The O. B. Wilt Co., 1355 Market St., San Francisco, has been appointed factory representative for Duchess washing machines in California and the western counties of Nevada, F. W. McGrath, vice president in charge of sales for the Appliance Mfg. Co. here, has announced. A complete display will be maintained at his show room in the Western Merchandise Mart in San Francisco.

## Carson City Dealer Adds Lines

CARSON CITY, Mich.—Carson City Electric, Richard E. David owner, has been named dealer for Crosley appliances and Capehart television sets.



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There are...

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★ NO MORE "VALLEYS"  
THAT REDUCE PROFIT PEAKS

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A lot of doors must be opened to arrive at successful air conditioning application methods. And here's a new "key" to the doors. . . . James LaSalvia's "THE KEY TO AIR CONDITIONING."

As in other books of "The Refrigeration Library," the material is presented in a simplified, easy-to-understand manner, with charts, tables, problem examples, and conclusions, serving as instruction for the beginner and reference for the experienced installer.

Mr. LaSalvia has had 30 years experience in air conditioning, refrigeration, heating, and ventilating. This experience has covered designing, installing, and testing more than 1,000 air conditioning systems of all types, in addition to conducting training schools and college classes.

This first manual No. K-1 (additional manuals to be published in the near future) covers the fundamental physics of air conditioning, use of charts, methods of ventilation, figuring of air requirements, refrigeration problems as related to air conditioning, use of fans, methods of air distribution.

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## This Sounds Sensible

A "fabulously high standard of living" can be produced in the United States in the next fifty years if the interests of all the major groups in our economy are kept in balance, according to Secretary of Commerce Charles Sawyer.

Secretary Sawyer pointed out that we have not yet reached the time when various groups in our economy will forget their special interests and talk out their differences in a spirit of sweet reasonableness. However, he affirmed, we have made and are continuing to make progress in this direction.

"Many businessmen understand that business success depends upon well-paid, self-respecting workers and upon the ability of the public at large to buy what business produces," he continued. "Many workers understand that business cannot operate at a loss and that some return on capital investment is proper. Many farmers realize that other groups are entitled to consideration and that the farmer is not cultivating a fenced-off lot.

"I believe all of us can agree on the fundamental principle that profit is good when it is reasonable and when it is used to produce more of the things we need."

There is no formula, and cannot be in a Democracy, by which the goods and services produced in this country in the future can be divided into equitable shares, opined the Secretary. The distribution will continue to be worked out "for the most part in the somewhat illogical rough and tumble struggles between labor and management, between special interest groups and between political parties."

More just and beneficial solutions would be arrived at, the Secretary admonished, "if the demands of the groups with the most power in terms of popular support are tempered by a consideration of the interests and needs of other groups."

Current demands for pensions illustrated his point that co-operation among groups is needed to work out serious problems. Two things are clear, he mentioned, in considering demands that everybody in the country get a pension of \$100 a month at the age of 65.

"As a matter of national policy our federal government and our state governments are committed to the payment of pensions," he said. "It is equally clear that this involves actuarial and financial problems of the most delicate and critical nature."

The problem must be approached by industry and labor and by government on the basis of facts as distinguished from emotion or this country would be faced with an economic and financial crisis "which will make earlier crises seem pale by comparison."

A man's right to a pension should not depend upon the accident of his being employed by a company which happens to be operating temporarily at a high profit, or in manufacturing rather than farming, he observed. Recent contacts with small business show that many small businesses cannot pay pensions and will go out of business if insistent demands are made that they be paid.

"There are almost four million small businesses in the United States," Secretary Sawyer said. "No planning with reference to pensions, or wages or other major problems can afford to ignore the interests of this great group. If these interests are long ignored, our economic collapse is inevitable."

When any group is "short changed" the whole economy suffers, the Cabinet officer concluded. "The greatest progress can be made only by knowing the possibilities and the limits of the economy and by adjusting differences through discussion and compromise."



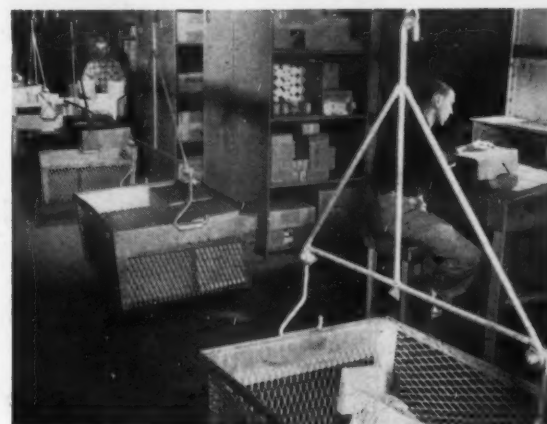
## 100 Employees and 1,500 Ft. of Conveyor Belt Fill Westinghouse Parts Orders



Above is the focal point of activity in the Westinghouse Replacement Parts Center. Here all orders are gathered, packed, and sent to the shipping department for delivery to all parts of the country and certain parts of the world.



L. K. Baxter, Westinghouse Appliance Div. service manager (left), and Warren E. Ullom, assistant to service manager, check storage locations in the new renewal parts center.



The 12,500-ft. long basket conveyor passes all zone stations on the second floor. Orders designated for packaging lines are shown in the baskets as the conveyor passes zone 5. The storekeeper (right) checks stock cards while a storeroom attendant stands by to place orders in position.

### McFadin Heads Marley's Merchandising Sales

KANSAS CITY, Kan.—Robert L. McFadin has been named manager of the merchandising sales department of The Marley Co., Inc., and as a result, has transferred his headquarters to the main offices of the company here.

For the past year, he had been in charge of merchandising sales in the New York office, and in his new position will have charge of such sales for the entire Marley organization.

McFadin attended Wisconsin university, and after a period in the Air Corps resumed his studies at Michigan College of Mining and Technology, and received his engineering degree there.

After graduation, he joined the Carrier Corp., and upon completion of its college graduate training program worked in the Carrier New York office.

He then became associated with the W. T. Grant Co. as engineer in charge of air conditioning. He has been with The Marley Co. since March, 1948.

### Buffalo Frosted Foods Buys Cannery Co-operative

BUFFALO—Buffalo Frosted Foods Inc., announced the purchase of the former B & F Cannery Co-operative plant in Fredonia for the purpose of canning and freezing fruits and vegetables.

Louis A. Catalano, vice president and secretary will be the general manager of the Fredonia plant and will also be manager of the company's plant facilities in Buffalo and Judsonia, Ark., during the seasons of their operation.

Michael E. Regan will succeed Catalano as general manager of the Growers & Packers Co-operative Canning Co. Inc., in North Collins. Regan has been assistant manager at North Collins. Catalano will continue as secretary-treasurer and a member grower of the North Collins co-operative.

### Renewal Parts Center Can Handle More Than 2,500 Requests Daily

NEWARK, Ohio—A new, streamlined Westinghouse renewal parts center, designed for a greatly accelerated delivery of appliance parts to distributors all over the country, has been established in a 125,000-sq. ft., two-story plant here. The new center has the capacity to ship over 2,500 orders daily.

More than 3,000,000 parts for Westinghouse refrigerators, ranges, water heaters, Laundromats, and other appliances have been moved from the company's Mansfield, Ohio plant to the new warehouse, which is efficiently served by three railroads, an airport, and nine national trucklines. When necessary, replacement parts can be rushed to any part of the nation by air express.

The Newark center is under the direction of L. K. Baxter, manager of the appliance division service department, and is locally managed by Warren E. Ullom.

Approximately 100 people are employed at the center. All parts and material are handled through the use of 1,500 ft. of conveyors which reach all parts of the building.

All stock has been divided into 14 zone locations. A continuous overhead cable conveyor, carrying detachable metal baskets passes all zone stations on the second floor and transports stock items to the packaging lines on the first floor.

An intercommunication system connects all zone stations with the shipping department.

The six packaging lines are serviced by a belt conveyor, which carries the packaged equipment to the shipping department.

Pointing out that the renewal parts facilities at Mansfield had grown inadequate to handle properly the vast number of parts orders received, Baxter said:

"In the present highly competitive market, service takes on increased importance, since the product is often measured by its service records. We are going to do everything we can to back up our contention that service is an arm of—and an aid to—product sales."

### Mitchell Is Mich. Supervisor for Air Conditioning and Refrigeration Inst. Offering Home Study Course

DETROIT—Emery L. Mitchell is now functioning as state supervisor for the State of Michigan, for the Air Conditioning and Refrigeration Institute of Baltimore.

The institute is offering a home study course in air conditioning and refrigeration. This school features a four-week full-time training period at the shops of the school after the home study lessons are completed.

The 70 lessons in the home study course cover a variety of subjects

and can be helpful to men established in the field of refrigeration.

For those in air conditioning, there are lessons on load calculation, equipment selection, and duct design.

The institute has been operating since the end of the War, training both veterans under the G.I. Bill, and civilian students. Mitchell had interest in the food distributing field in Detroit, and has also been employed by Pasteuray Corp. of St. Louis and Hammond Standish Co.

### Salaried Weber Employees Share \$250,000 Bonus

LOS ANGELES—Profit sharing bonuses of approximately \$250,000 to salaried employees for 1949 were announced recently by Karl Weber, president of the Weber Showcase and Fixture Co., here.

Under the Weber company's bonus policy, approximately 40% of net earnings for the year has been distributed to employees, one fourth more than total dividends paid.

The balance of the net earnings are reinvested in the business.

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SOUTHWEST AIR CONDITIONING  
EXPOSITION  
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GET THE BIG NEWS FIRST HAND  
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Controls for OIL • GAS • COAL-FIRED  
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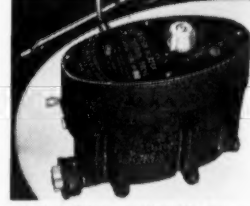
A-P MODEL 240-Y SERIES Safety Oil Controls—for single or double burners, end or side inlet.



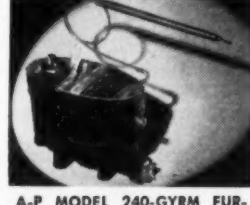
A-P MODEL 240-GYR CONTROL for Floor Type Furnaces.



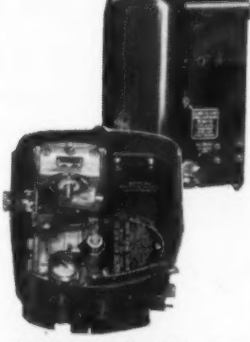
A-P MODEL 240-TOYR Thermo Oven Control for Ranges.



A-P MODEL 240-WYP Thermostatic Hot Water Heater Control for mobile units.



A-P MODEL 240-GYRM FURNACE CONTROL with built-in limit feature.



UNAPAC "SIX-IN-ONE" Complete Furnace Control. Has facilities for ALL furnace functions in one easily-installed, compact, low-priced unit.



A-P MODEL 252-A Control for Trailer Heaters.



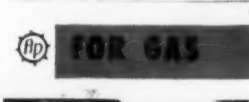
A-P COMFORT MASTER MODEL 240-ED Electric Conversion Set. Provides Thermostatic Heat Regulation for Heaters using A-P Model 240-D, U, or Y Series Controls. (COMFORT MASTER Sets also available for furnaces, floor furnaces and trailer heaters.)



A-P FUEL OIL TRAP-IT Improves burner operation by keeping oil free from impurities.



A-P MODEL 346 OILIFIER Automatically "lifts" oil from bulk storage to ANY appliance as high as third story.



A-P MODEL 162 SOLENOID GAS VALVE SET With NEW Non-gumming Solenoid.



A-P MODEL 54 GASAPACK. Replaces 5 or more separate units. Automatic used with Thermostat and Transformer.



A-P MODEL 54 APG MANUAL GASAPACK Control for Gas Heaters and Furnaces—100% safe.



A-P MODEL 54 APG MANUAL GASAPACK Control for Gas Heaters and Furnaces—100% safe.

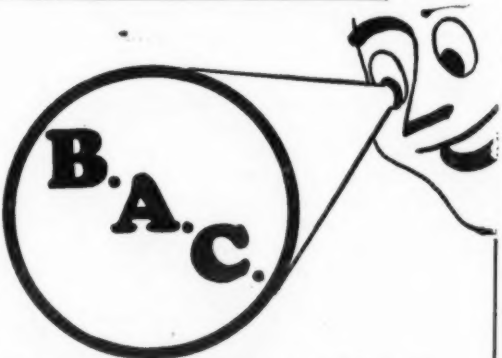


A-P MODEL 54 APG MANUAL GASAPACK Control for Gas Heaters and Furnaces—100% safe.



A-P COMFORT MASTER Automatic Heat Regulator Set, with Combined Damper Regulator and Limit Control, Heat-Anticipating Thermostat, and Field Barometric Check Damper.

NOW YOU  
CAN SEE  
WHY IT'S...



FOR THE MOST EXTENSIVE LINE OF  
**EVAPORATIVE CONDENSERS**

Yes, now you can see for yourself the most extensive line of Evaporative Condensers. Capacities from 10 to 210 T.R. in a single unit.

Visit Booth 729  
DALLAS SHOW  
Jan. 23-27

**BALTIMORE AIRCOIL CO., INC.**  
709 WEST PRATT ST. • BALTIMORE 1, MARYLAND

Millions Know the Satisfaction of  
**DEPENDABLE Controls**  
FOR HEATING... AIR CONDITIONING... REFRIGERATION

**AUTOMATIC PRODUCTS COMPANY**  
1000 West Third Street, Dallas, Texas





Typical of crowds that attended "Golden Era" cooking schools is this capacity audience at Hotel Beecher, Somerset, Ky. School was sponsored by Graybeal Electric Co., Somerset dealer, with cooperation of Graybar. More than 800 persons watched appliance demonstration conducted by Mrs. Ray Huggins of the Kentucky Utilities Co., and Miss Joyce Ritchie, Hotpoint home economist.



"Electricity is king" was theme of this float that toured Billings, Mont., in the early days of electric cooking. Montana Power Co. placed first carload order for electric ranges manufactured by late George A. Hughes, founder of Hotpoint. Recent cooking school held at Billings observed fortieth anniversary of invention of electric range, with gold-trimmed "two-millionth" Hotpoint pushbutton model shipped in by air.

### Demonstration Is Still Best Seller:

## 112,000 Help Dealers Celebrate Hotpoint's 40th Anniversary

CHICAGO—More than 112,000 persons attended some 100 Hotpoint cooking schools around the country over the past seven months as part of a nationwide promotion celebrating Hotpoint's 2,000,000th electric range, Edward R. Taylor, Hotpoint sales manager, reported recently.

Commenting on the results of the cooking school promotion, Taylor said that attendance figures indicated that "this oldest form of demonstration is still one of the best to sell

women on the use value of appliances."

The school programs carried the same theme nationally, he pointed out. Distributors and local electric companies cooperated with the dealers in sponsoring them. Hotpoint developed valences, backdrops, and other staging materials and made them available to dealers through distributors, he stated.

A special colored slide film, "The Passing of the Flame" showed the

evolution of cooking from pre-historic times to modern pushbutton control.

The schools coincided with the fortieth anniversary of the electric range and to make them dramatic, the company shipped more than 100 gold-trimmed "2,000,000th" models to the schools, many of them by air. These were displayed with early electric stoves manufactured 40 years ago by the late George A. Hughes, called "the father of the electric range."

Taylor cited a number of the local promotions that proved to be particularly successful.

A cooking school co-sponsored by Gerald J. Disch of Disch Hardware, New Glarus, Wis., the Wisconsin Power & Light Co., and General Electric Supply Co., Milwaukee, attracted 520 persons out of New Glarus' population of 1,200.

Disch sold eight electric ranges, two 52-gal. electric water heaters, one automatic dishwasher, two garbage disposers, two washers, and one freezer. He estimated that three or four times these sales, as well as stepped-up store traffic, resulted from follow-up calls.

The New Glarus school featured Mrs. Ellen Semrow of the Hotpoint Institute, and Miss Sally Turnbull, home economist of Wisconsin Power & Light. Cooking demonstrations were carried out on a double-oven RD5 pushbutton range.

Disch reports that customers now are insisting on this deluxe model, whereas it was relatively difficult to move before the school was held.

In Allentown, Pa., a large school was sponsored by a group of dealers in cooperation with Graybar Electric Co. and Pennsylvania Power & Light Co. Schools held on three successive days drew a total attendance of 3,200 persons. A pushbutton range was given as a prize on the final night, with 10 traffic appliances as prizes at each show.

Tickets to the shows were distributed at dealer stores and at the utility company's offices where customers paid their bills. Guests at the show were asked to fill out tickets showing appliances they intended to buy. These added up to potential sales totaling more than \$300,000, with electric ranges heading the list. As a highlight of the Allentown

High School auditorium show, 200 orchids were given out each night to the most recent brides, oldest women in audience, guests who owned Hotpoint ranges, etc.

Mrs. Selma Andrews, manager, Hotpoint Institute, and Mrs. Semrow put on the cooking demonstrations. The shows were broadcast over local radio stations.

Mendelsohn's at South Haven, Mich., had an attendance of 1,500 at two cooking schools, out of a town population of 6,000.

Gee's Electric, Zeeland, Mich., (population, 3,000) drew 1,100 in two nights, with 25 major appliances sold as a direct result. B. & W. Distributing Co., Grand Rapids, helped stage both events.

Twenty dealers in Kansas City, Mo., staged a "Magic Key" promotion in their stores, climaxed by a cooking school in the municipal auditorium. Each dealer paid \$213 as his share of the activity.

An eight week's advertising campaign in the Kansas City *Star* netted 10,000 lines of copy devoted to new work saving appliances and the free school. A pushbutton range and 19 traffic appliances were given as prizes.

In Cleveland 4,800 persons attended two cooking school sessions in one day. Orders for three pushbutton ranges were signed at the close of the school.

Cleveland Electric Illuminating Co. joined with Graybar and 37 dealers in staging the show. Demonstrations were carried on in a complete all-electric kitchen and home laundry mounted on the stage. Two pushbutton ranges and 25 food baskets were prizes.

At Oakland, Calif., a cooking school was held in a theater, with Miss Marguerite Reinhart, Hotpoint home economist, featured in lights on the marquee.

Appliances were on display in the lobby for a week preceding the school. The Graybar distributor reported orders for 76 ranges while tickets were being distributed.

Nine Aroostock county dealers in Maine furnished merchandise for a Hotpoint booth at the Presque Isle fair that netted each dealer 300 prospects for major appliances.

Daigle & Bouchard, Fort Kent, Mo., mounted an early Hughes range beside a "two-millionth" pushbutton model on a trailer equipped with a loud speaker and paraded them through the streets.

The Albany (N. Y.) *Times Union* put on a cooking school in cooperation with seven Hotpoint dealers in the high school auditorium that attracted 1,300 persons from 34 neighboring communities. Prizes were a range, dishwasher, radio, clock, 20 food baskets, and a \$50 savings bond for a casserole recipe contest.

An inquiring reporter column asking guests "Does the modern housewife cook as well as her mother or grandmother?" concluded: "Yes, probably better. New equipment makes the difference."

The school was televised over WRGB, and spot broadcasts were carried on five Albany area stations.

### New Thermopane Window Unit Cuts Solar Heat Transmission by 44%

TOLEDO—A recent development in the flat glass industry is a new window unit, resulting from the combination of one plate of heat absorbing glass and one of regular polished plate glass.

These two plates, when separated by a space of dry air hermetically sealed within the unit by a metal strip, form a Thermopane window unit which reduces the transmission of solar heat by more than 44%.

The heat absorbing Thermopane unit has been field tested in dozens of commercial buildings throughout the south and far west. It was found that the plate of heat absorbing glass, when used as the outer pane of the double-glass unit, absorbed nearly half of the sun's heat.

The bluish-green tint of the glass also proved effective in lessening glare both from direct sun and from reflected sunlight.

When glazed in an entire building the heat absorbing Thermopane proved economical. A smaller air conditioning unit was needed and the operating costs of that unit reduced.

Present uses of the new unit range from glazing in laboratories where interior temperatures must be carefully controlled to windows in office buildings where employee comfort is the deciding factor.

### Pre-Christmas Week Sales For Dept. Stores Up 14%

WASHINGTON, D. C.—Due at least in part to an extra shopping day this year, department store sales for the week ending Dec. 24 soared 14% above those for the corresponding week last year, the Federal Reserve Board reported recently.

Gains were noted in all Federal Reserve districts, ranging from 10% in Philadelphia and Cleveland to 25% in Kansas City. Other district gains were Atlanta 22%, Minneapolis 21%, Dallas 20%, San Francisco 18%, Boston 15%, Richmond 13%, and New York, Chicago, and St. Louis 12%.

Sales for the year to Dec. 24 were down 5% from the 1948 period.

### Krich-Radisco Appoints Solomon Bendix Dist. Mgr.

NEWARK, N. J.—Paul J. Solomon has been appointed a district manager for Bendix home laundry equipment effective Jan. 1, Barney G. Krich, vice president in charge of the Bendix division, Krich-Radisco, Inc., northern New Jersey territory distributor, announced recently.

Solomon will be responsible for the sale of Bendix automatic washers, driers, and ironers to dealers in Bergen and Hudson counties.

He was formerly sales representative for Philco Distributors, Inc.



**Y**EARS AGO we learned how to build welded-wire steel shelving in a way to solve the other fellow's production headaches. It's only a matter of putting the pieces together—but, oh, what a difference our know-how can make in the finished result!

Long service to our customers have enabled us to equip our plant with the most modern production facilities—automatic assembly-line fabrication and welding, complete in-plant finishing by dip or plating. Most important of all, our engineering service anticipates production problems and requirements, then pre-engineers their solution.

**YOU CAN PUT YOUR TROUBLES ON THE SHELF WHEN UNION STEEL IS YOUR CONTRACT PRODUCER. SHELVING SPACE IS SELLING SPACE. LET US HELP YOU MAKE THE MOST OF IT!**



**UNION STEEL PRODUCTS COMPANY**

Wire Division • ALBION, MICHIGAN



## Minneapolis-Honeywell Creates New Sales Post And Promotes Four

MINNEAPOLIS—Creation of a new management sales post and promotions of four branch and regional managers have been announced by Tom McDonald, vice president in charge of sales for the Minneapolis-Honeywell Regulator Co.

Fred Kaiser, midwest regional manager for the company since 1942, has been promoted to field sales manager.

Clarence L. Peterson, who has been Pacific regional manager for Honeywell with offices in San Francisco, will succeed Kaiser in the midwest area.

Kaiser's position as field sales manager is new to the company, McDonald said. It was created to coordinate the increasing activities of the field organization which now encompasses 77 branch and regional offices within the United States.

Kaiser joined Honeywell's New York office as service and sales representative in 1926. He worked in the Syracuse, Buffalo, and Detroit offices as manager before his assignment to Chicago seven years ago.

Peterson started with the Brown Instrument Co. in 1927 and worked in the San Francisco office. When Honeywell acquired Brown in 1935, he was appointed branch manager of that office and three years ago was named Pacific regional manager.

Succeeding Peterson as Pacific regional manager is Gavin S. Younkin, who has been Honeywell's Los Angeles branch manager since 1943. Younkin will continue to headquarter in Los Angeles and direct the region from that office.

He joined the Brown Instrument Co. in 1925 in the sales and service department and worked in the Dallas, Chicago, and Tulsa offices before transferring to the Los Angeles office in 1942.

Reginald C. Cushing has been promoted to branch manager of the company's San Francisco office. He joined the Honeywell organization in 1935 and a year later was transferred to the San Francisco sales staff.

In 1946, he was made regional air conditioning sales manager, a position he held until his latest promotion.

## Brown Instruments Plans 1950 Training Schools

PHILADELPHIA—Industrial instrumentation training school schedules to be conducted for the first six months of 1950 by Brown Instruments division of Minneapolis-Honeywell Regulator Co. will include four short courses of five weeks each and one long course of 13 weeks.

In addition to the short courses for customers' men, to be held during January, March, May, and June, intensive courses will be held for specific industries, said M. L. Ladden, chief instructor. The first short course will open Jan. 9, the final will end on June 30.

The regular comprehensive 13-week course will start on Feb. 27 and will end on May 26. In this, and in the shorter courses, lecture and bench instruction will take up new and improved types of industrial measuring, indicating, and controlling instruments.

These will include millivoltmeter-type pyrometers, continuous balance (Electronik) potentiometers, electrically-operated automatic control, flow meters, thermometers, pressure gauges, hygrometers, air-operated automatic control, Moist-o-Graphs, tachometers, resistance thermometer—CO<sub>2</sub>, and analygraph.

The classes, to be held at the Brown School of Instrumentation here are designed to benefit industrial plants by instructing their engineers in modern instrumentation application and maintenance.

## Eby Heads York Industrial Sales In Pacific District

YORK, Pa.—John R. Hertzler, vice president and general sales manager of York Corp., has announced the appointment of William R. H. Eby, a native of Oakland, Calif., to the newly created position as industrial sales manager of the Pacific district with headquarters in Los Angeles.

Until recently Eby had been serving York as branch manager at Seattle. He has been with the air conditioning and refrigeration firm ever since 1930, following his graduation from the University of Arizona, Tucson, with a B.S. degree in mechanical engineering.

Following an extensive course at the York factory here, Eby was assigned to the Los Angeles office where he remained until 1934 when he was transferred to Seattle. He was appointed Seattle branch manager in 1945.

He has devoted much time to management functions, including disposition of properties formerly held by the company there.

## Address Moves to Admiral, N.Y.

NEW YORK CITY—Charles H. Address, who recently came here from the Washington division of Admiral Corp., has been appointed to supervise the sale of all Admiral products in the New York area, it has been announced.

## Important Darkroom Variable Eliminated

# Water Cooling, Heating Unit Holds 68° Temperature

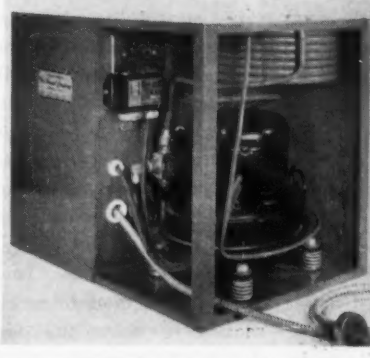
ORANGE, N. J.—Packaged water-cooling and heating units designed to provide a constant 68° F. supply of water for photographic darkroom sinks have been developed by the Housel Co. here.

Water-cooled condensing units are built into the cabinets, which are available in two models—HR No. 2 which contains only the cooling unit, and HRH, which is also equipped with its own water heater.

Importance of proper temperature control of the negative developing bath in photography has long been a problem, points out the Housel Co. This applies to both black-and-white and color as well as to photoengraving. Maintenance of a constant temperature, usually 68° F., eliminates an important variable factor in developing of negatives, and this further permits the process to be controlled by varying only the time of development.

The firm's HR No. 2 model is encased in a sheet metal cabinet 24 in. long by 15 in. wide and 18 in. high, which is said to be small enough to fit under a photographic sink. This is available in several rated capacities: 55, 94, or 141 gal. per hour cooled from 85° to 68°, and 120, 195, and 292 g.p.h. from 75° to 68° F.

A water-mixing valve at the inlet to the sink provides a constant temperature to within 1° of any desired setting at or near 68° by mixing the chilled water with the warmer water. Installation involves two 1½-in. drain connections and three ½-in.



water connections.

The standard model, the company states, is intended for use where a customer has an independent source of hot water for winter operation and needs only a cooling unit for summer operation. To change this unit from summer to winter operation (when incoming water would usually have to be heated to reach 68° F.), the condensing unit is shut off, one valve opened and another closed in the hot water line.

With the HRH model, which has its own immersion heating element, the change from winter heating to summer cooling is accomplished by a double-throw switch. This model can be hooked into a conventional hot water supply line if desired, thus providing two heating sources as a safety factor, the manufacturer says.

Water-cooled condensing units are employed in both types of models because with air-cooled units "the

atmosphere in the dark room becomes progressively warmer," the firm states.

A continuous flow water system, as opposed to a recirculating installation or one in which the cooling coils are fastened directly to the sink, is favored and employed by Housel.

While the initial cost of the Housel continuous flow system is admittedly slightly above the other methods, and water consumption is obviously higher, several advantages are claimed.

"Cleaned, controlled temperature water is always available in the sink for washing prints, or to fill other containers, or to mix with concentrated solutions, etc.," Housel states.

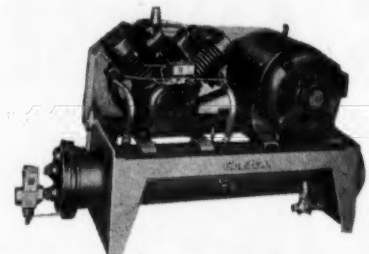
With both the recirculation systems and the direct cooling method, the water in the sink becomes contaminated with solutions and can't be used for any other purpose. Stratification also occurs in the "direct" method, it is claimed.

To offset some of the operating costs of the Housel continuous flow system, the waste water at about 70° flowing from the sink is piped through a pre-cooler in the unit to help cool the incoming water.

## Superior Names New Agency

PITTSBURGH—George R. Allen, general sales manager, Superior Valve & Fittings Co., has announced that Bond & Starr, Inc., Pittsburgh advertising agency, has been appointed to handle all its advertising and sales promotion.

SEE THIS FAMOUS LINE IN DALLAS IN JANUARY • BOOTH No. 307

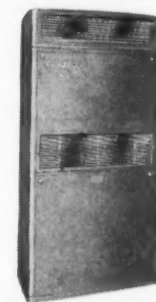


WATER-COOLED CONDENSING UNITS—Shell and Tube Type

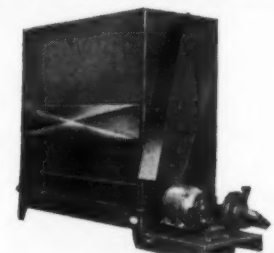
You can increase your profits because you can handle any

AIR CONDITIONING • REFRIGERATION • OR AIR MOVING JOB

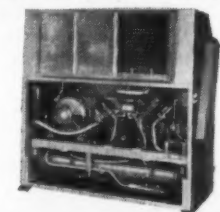
with Curtis equipment



PACKAGED TYPE AIR CONDITIONERS—2½-8 Ton



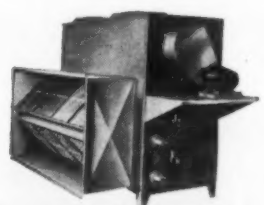
EVAPORATIVE CONDENSERS and COOLING TOWERS



CENTRAL TYPE AIR CONDITIONERS—10 and 15 Ton



CURTIS REFRIGERATING MACHINE DIVISION  
of CURTIS MANUFACTURING COMPANY  
1912 Kienlen Avenue, St. Louis 20, Mo.



CEILING and FLOOR TYPE AIR HANDLING UNITS

The New Curtis line reflects the many advantages gained from almost a century of accumulated experience in engineering, designing and manufacturing. You can install Curtis equipment with the knowledge beforehand that it will operate dependably with the highest degree of efficiency and quietness. Your customer will be happy, your reputation enhanced, your profits greater. Write for complete detailed information about a Curtis franchise.

**NEW HEAVY-DUTY "Cross-Fla"**

Two outstanding innovations by Remco—Molded Du-Cal drierite discs as the ideal drying agent for liquid line applications; and Spun Ends on the ideal leakproof, jointless body design.

Available in either Flare End or Integral Sweat End Connections. In 1, 2, 3, & 5 Ton Capacities. Send for Literature & Prices.

**REMCO** INCORPORATED  
ZELLENFELD, PA.

## MINERALLAC "DUPLIX" JIFFY CLIPS

Do it Faster...Better!

Millions of "Duplex" Jiffy Clips have set an unsurpassed service-record for installing hanging pipe, conduit, B-X cable, coils, condensers, etc. One bolt or screw holds this ribbed clip. In zinc-plated steel or Everdur alloy.

SEND FOR LITERATURE AND PRICES

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**MINERALLAC**  
HANGERS, CLIPS,  
STRAPS, BUSHINGS  
MINERALLAC ELECTRIC CO.  
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Chicago 7, Illinois

**MINERALLAC**



## Air Conditioned Smelter Crane Cab



The air in this U. S. Metals Refining Co. smelter at Carteret, N. J. contains a certain volume of vapors and is usually at a high temperature. An air conditioning unit maintains cool, even temperatures within the crane cab and an activated carbon air recovery installation bars the smelter fumes. Access door has been opened and dust filter removed to show the carbon-filled canisters, products of the W. B. Connor Engineering Corp.

## Smetzer, Baldwin Receive Promotions at Weatherhead

CLEVELAND—Albert J. Weatherhead, Jr., president of the Weatherhead Co., has announced that John D. Smetzer, former industrial relations director, has been appointed vice president in charge of industrial relations, and John D. Baldwin, Jr., has been made chief engineer and will supervise all development and product engineering activities.

Baldwin followed the footsteps of his father by joining the Weatherhead Co. 23 years ago as an engineer after attending Case Institute of Technology.

In 1940 he was given the responsibility of setting up and operating the Glendale, Calif., plant for the production of precision hydraulic equipment for aircraft. With the ending of the World War II he was recalled to Cleveland to serve as assistant chief engineer.

## Herman Nelson Corp. Merges With American Air Filter Co.

NEW YORK CITY—Stockholders of both corporations have approved the merger of the Herman Nelson Corp. into the American Air Filter Co., Inc., the New York Curb Exchange reported recently.

## 5-Ton Airtemp Units Govern Curing Conditions In Plant of Antwerp Tobacco Processor, One of Europe's Largest Firms

ANTWERP, Belgium—With the world consumption of tobacco and tobacco products increasing at a startling rate, one of the largest tobacco processors and warehouses in Europe, Usines Vander Elst here, has inaugurated a new production and packaging line that is housed in completely air conditioned quarters.

As more people use these tobacco products there is greater demand for "quality," and thus the need for closely controlled temperatures and humidities, points out Ken L. Crapeau, Airtemp sales manager for Chrysler's Export Division.

"Not only in the United States but also in many foreign countries, the owners and operators of processing plants are insisting on the latest equipment with which to create ideal atmospheric conditions for the proper aging and curing of the many varieties of raw tobacco being blended," he says.

"Different types of leaf require different conditions for quality curing. The end-use of the product also governs the conditions best suited for process conditions. Tobacco to be used for snuff is processed differently than that to be made into cigarettes. Cigar tobacco requires still another method and set of conditions."

Equipped with steam coils, humidifier sprays, and air filters, Chrysler Airtemp 5-ton packaged air conditioners have been installed along the walls of the new processing room at the N. V. Vander Elst plant in Antwerp to keep the air free from tobacco dust, cool and dry the air in summer and heat and humidify the air in winter.

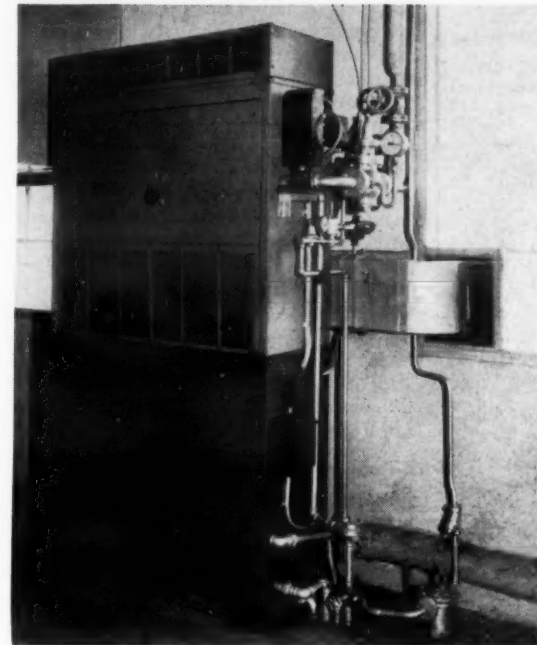
Humidistats regulate the operation of the humidifier spray lines so that proper humidity conditions can be maintained in the area, the temperature being controlled by thermostats which actuate the condensing units and/or steam coils.

Located along the walls, the 5-SCA "packaged" units discharge directly into the conditioned area without use of ductwork. Directional airflow grilles permit the air to be directed as needed, while air volume can be changed by variable-pitch fan-motor pulleys.

"With present-day equipment," points out Crapeau, "it is possible to up-grade tobacco quality to an extent that would have been thought impossible a few years ago. Color, aroma, and texture are all affected by the methods and conditions under which the raw leaf is processed. Improved packaging methods help the tobacco retain its freshness and flavor."



ABOVE: Handling and processing tobacco in an air conditioned warehouse.



LEFT: With units such as this one in the tobacco room of the Usines Vander Elst in Antwerp, Belgium, temperature and humidity control is handled in the summer by cooling the air and removing moisture. In the fall and winter, a steam coil and humidifier spray heat the air and add moisture.

# SALES AND SERVICE BOTH Need the Facts



The proper installation of new equipment and satisfactory maintenance of old installations requires exact knowledge of relative humidity and temperature conditions. Bendix-Friez, manufacturers of the world's foremost meteorological equipment, makes a quality line of servicemen's instruments for heating and air conditioning work.

BENDIX-FRIEZ

*Hygro-dual*

Precision Humidity and Temperature Indicator, Model 185

Hand-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5 1/2" wide, 1 1/2" deep—desk or wall mounting. A genuine precision indicator reasonably priced.



BENDIX-FRIEZ

Hand Aspirated Psychrometer, Model HA/2

Pocket size, a new standard of convenience in measuring relative humidity. Accurate readings obtainable without special skill. Psychrometric readings can be taken at any point desired however inaccessible.

BENDIX-FRIEZ

Portable Humidity and Temperature Recorder, Model 160—3" x 5" charts, 10 or 30 hour records. Modern design... handy for small space and difficult locations... built to meet unusual conditions.



WRITE: FRIEZ INSTRUMENT DIVISION of  
1346 Taylor Avenue  
Baltimore 4, Maryland

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.



## Coral Gables Beauty Salon Installs 3-Ton Conditioner

MIAMI, Fla.—La Belle Beauty Salon, 337 Alcazar Ave., Coral Gables, was recently equipped by Giffen Roofing Co.'s air conditioning division with a 3-ton Baker package unit air conditioner.

Some 45 months ago Giffen Roofing Co. obtained a franchise from Baker Refrigeration Co., to sell "Bakeraire" air conditioners. Since then, the units sold have totaled 368 tons in capacity.

## Fire Hits Eastern Tire

LACKAWANNA, N. Y.—Damage estimated at \$25,000 was caused by fire which swept the Eastern Tire Co., appliance dealership at 2036 Hamburg Turnpike. Samuel Siegel is proprietor of the company. The fire was confined to the storage rooms.

## Fifty Students Are Graduated from York Refrigeration, Air Conditioning Institute

YORK, Pa.—Fifty students from York distributor organizations, representing five foreign countries and 14 states were graduated Dec. 15 from the York Institute of Refrigeration and Air Conditioning. A banquet was held in their honor at West York Inn.

The group had just completed an intensive six weeks course in commercial service training which stressed the importance of technical fundamentals in the merchandising and servicing of air conditioning and refrigeration products.

W. E. Landmesser, manager of resale sales and D. C. Seitz, manager of distributor sales, presented the certificates to the graduates who came to York from the Philippine Islands, China, Canada, Colombia, and Newfoundland, besides the following states: Ohio, Louisiana, New York, Massachusetts, West Virginia, New Jersey, Texas, Pennsylvania, Illinois, Alabama, Colorado, Virginia, Iowa, and Georgia.

Charles Bolton, who is associated with the Goodling Electric Co., was the only local graduate.

Awarded certificates for successfully completing the commercial sales application engineering course were:

William C. Avery, Aurora, Ohio; Henry J. Campbell, New Hyde Park, N. Y.; Robert B. Canning, Toronto, Ont., Can.; Leland E. Cooke, Boston; Alvaro Escobar, Colombia; William H. Hamm, Shreveport, La.; George H. Harmon, Williamson, W. Va.; George E. Harris, Steubenville, Ohio; William H. Hoops, New York City; William S. Hughes, Allendale, N. J.; Joe K. Jones, Lubbock, Tex.; James P. Jordan, Dallas, Tex.; Aaron R. Kaminsky, New York City; Gerald Kehoe, New

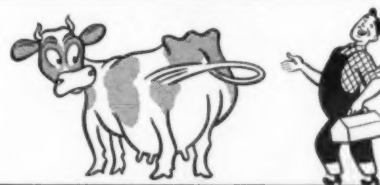
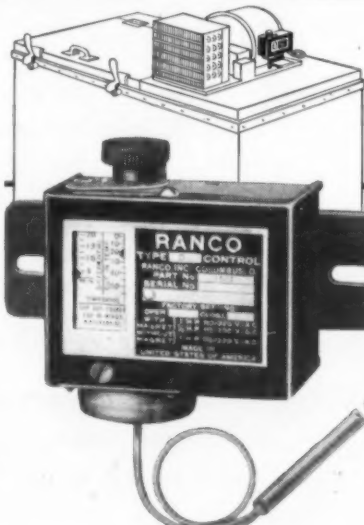
York City; Pascal L. Kennedy, Dallas, Tex.; William D. Kopenhaver, Harrisburg, Pa.; Robert S. Lebar, Jenkintown, Pa.; Miguel A. Magsaysay, Rizal City, Philippine Islands; James P. Miller, Jackson Heights, N. Y.; Riley H. Nestor, Portsmouth, Ohio; Roger L. Rae, Chicago; Leon F. Scott, New York City; John S. Tarlton, Shreveport, La.; Max Allen Ward, Pottsville, Pa.; Thomas R. Wilson, Toronto, Ont., Can.; and Ferdinand J. Zoppel, Columbus, Ohio.

Those graduating from the commercial service training course were:

Pete J. Adamski, Jersey City, N. J.; Elbey Allman, Mobile, Ala.; Matthew A. Beddow, Mechanicsburg, Pa.; Michael Bistranin, Edgewater, Colo.; Charles Bolton, York, Pa.; William E. Brockmoller, El Paso, Tex.; Charles E. Broughton, Portsmouth, Va.; Glenis W. Calvert, Columbus, Ohio; Paul DeLapp, Des Moines, Iowa; Carl P. DiVita, Rochester, N. Y.; Alex Edgecombe, St. Johns, Newfoundland; Curtis H. Gibbs, Portsmouth, Va.; Robert Gillsdorf, Bysville, Ohio; Joseph H. Given, Columbus, Ohio; Harold Glore, Metairie, La.; Samuel I. Heim, New Ringgold, Pa.; John E. Kurtz, Boiling Springs, Pa.; Chin Fun Kwok, Hong Kong, China; W. J. McCauley, Joliet, Ill.; Richard Meyer, Newark, Ohio; Willard Miller, Ottawa, Ill.; Raymond H. Ozanich, Macon, Ga.; J. Frank Wood, Roanoke, Va.; and Melvin Zwicke, New Orleans.

Representing York Corp. were:

Vice presidents, M. G. Munce, J. K. Louden, J. R. Hertzler, J. G. Bergdoll, and J. C. Consley; D. M. Magor, controller; R. K. Serfass, assistant general sales manager; R. H. Dowling, general service manager; W. E. Landmesser, manager of resale sales; D. C. Seitz, manager of distributor sales; J. M. Lambert, manager of consumer sales; W. G. MacBride, service department; J. S. Garceau, W. C. Moore, and G. H. Conrad, advertising and sales promotion; Jack Joslin, manager of industrial relations; R. B. English, C. J. Brillinger, M. G. Gable, Karl Helwig, D. C. Wilson, and C. R. Strayer of the industrial relations division.



"She's making sure it's kept correctly cooled with Ranco Controls"

## Ranco Type O-1414 Control for Milk Coolers

To insure complete customer satisfaction on every control replacement job, replace it right with Ranco Refrigeration Controls. You'll do the job easier, faster... make greater profits, eliminate call-backs. Select from the most complete line ever supplied to the trade. See your Ranco wholesaler today.

**Ranco Inc.**  
COLUMBUS 1, OHIO



Replace it right with Ranco

World's Largest Manufacturers of Refrigeration Controls... more than 20,000,000 controls now in use



## 40% of Nearly Paid-up Accounts Accept Offer To Buy Again

SAN ANTONIO, Tex.—Keeping time-payment budget customers buying through a cleverly-directed direct-mail program is a policy which results in about a 40% "re-sale quotient" for Stowers Furniture Co., large appliance dealership here.

Recognizing the very serious need for time-payment purchasing plans for major appliances of all types two years ago, Stowers Furniture Co. was one of the first to offer low down-payment, no carrying-charge purchasing methods to the San Antonio public.

Results have been excellent from the outset, according to M. B. Betts, appliance sales manager, and there have been little or no sales lost due to the fact that a satisfactory credit program could not be worked out.

"We have been particularly suc-

cessful in selling better-profit, larger-size refrigerators, ranges, and washers to low-income families who appreciate better grades of merchandise," Betts said.

With a large percentage of the store's customers buying on time-payment plans, Betts realized last year that "keeping them buying" was one of the most important goals for which the sales end of the store could aim.

Therefore, a direct-mail program has been worked out, which invites the customer whose appliance is nearly paid for to continue buying at the store, thanking her for her business, and offering her a special bargain in one form of appliance or another as an additional inducement.

The first copy of the "inducement letter" is sent out when all but the

last two of the budget payments has been made on any outstanding account.

All of the account folders, maintained in the credit office, are checked daily, and those which are nearing the "paid out" point, are automatically subject for an individually type-written letter, signed with Betts' name which invites the customers to add another purchase to her account, and listing appliance specials which are being offered during the week. This may include anything from a toaster up through home freezers.

"We get an unusually good response by this simple policy," Betts said, "actually amounting to more than 25% of the total number of mailings."

In addition to this letter, another

goes out automatically, when the customer pays in the last amount.

In this letter, warm, cordial thanks from the store for the business, an expression of willingness to back guarantees and to go out of his way to render service, etc., are included.

Likewise, the letter mentions some appliance specials which are being offered exclusively to "paid up" customers, as a token of appreciation.

One such item is chosen each month, with a large enough discount to encourage the customer to "leave the account open" instead of closing it.

Here again, Stowers Furniture Co. has been amazingly successful in achieving its goal—with more than 40% of the total sold list immediately going back into the "active file."

## Universal Distributor Launches Dealer Contest To Boost Quarter's Sales

LIMA, Ohio—Refrigeration Sales Co. here, exclusive nationwide distributor of Universal refrigerators and freezers, has announced the launching of a three-month sales campaign and contest designed to materially increase sales. The campaign, which started Jan. 1, continues through March 31.

All Universal distributor sales managers and distributor refrigeration salesmen are eligible for the contest which awards prize points for setting up new dealerships; for window displays, and on sales of the various models.

At the close of the campaign the pictures of the window displays will be judged on a nationwide basis with bonus points awarded for the three top displays.

The salesman scoring the highest number of points in each distributor's organization will also be given an additional 10% point credit at the close of the campaign, the company declared.

The campaign has been divided into three periods with top emphasis placed on sales and deliveries between Jan. 1 and Jan. 20. Units sold and delivered between Jan. 21 and Feb. 20 also carry more prize points than for the balance of the sales contest.

Prize points are redeemable in valuable merchandise prizes.

The Universal refrigerator is being manufactured, under contract, by Artkraft Mfg. Corp. here.

## 'Luke the Leonardman' Pays Christmas Calls

DETROIT—Instead of conventional Christmas greeting cards, each Leonard district manager presented his dealers and their salesmen with a magazine-size pamphlet published by the Leonard division of Nash-Kelvinator Corp. entitled "Some Selection from The Parables of Luke the Leonardman."

"The Parables" are a regular feature of Leonard's monthly dealer magazine, "Leonard Topics." Written in pseudo-biblical style and illustrated with cartoons, each "Parable" tells a humorous story which has as its point a sales lesson.

The booklet, with a foreword by Leonard Sales Manager Walter Jeffrey, includes the best "Parables" of 1949 and covers such topics as these:

"Wherein it is recommended that sellers give not up when the Customer saith, 'I am not interested.'"

"Wherein are cited the Dangers of recklessly knocking thy competition."

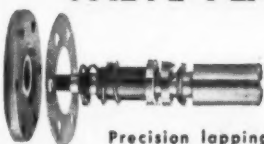
"Wherein it is revealed that Customers' objections often lead to sales."

## Kroger Store Air Conditioned

CHATTANOOGA, Tenn.—The Kroger Co. will open an ultra-modern food department store, fully air conditioned, at 132 N. Market St., North Chattanooga, it is learned. Officials said total investment in land, building, and equipment is estimated to be between \$150,000 and \$200,000.

## Servicemen!

FOR MAXIMUM EFFICIENCY USE CHICAGO SEALS AND VALVE PLATES



Precision lapping, superior construction and simple installation make Chicago seals ideal for replacement.



Only Chicago valve plates have replaceable seats. Replacements for over 340 compressor models.

CHICAGO SEAL CO.  
1332 S. HOYNE AVE. CHICAGO 12, ILL.

NEW G&E CATALOG  
REFRIGERATION PARTS • ELECTRICAL SUPPLIES

Yours for just a 3¢ Stamp  
SEND FOR IT TODAY ON YOUR LETTER-HEAD.

G & E EQUIPMENT SUPPLY CO.  
OGDEN AT FULTON  
CHICAGO 7, ILL. HAYMARKET 1-0240

## NLRB Reverses Ruling, Says Union May Picket Co. Trucks on Customer's Premises

WASHINGTON, D. C.—In a case based upon charges filed by a refrigerated trucking firm, the National Labor Relations Board ruled that the secondary-boycott ban of the Taft-Hartley Act does not prohibit a union of truckdrivers from picketing trucks of their employer at the premises of a customer who also is an employer.

The board emphasized that its ruling does not apply to picketing which extends around the customer's premises and which is directed at the customer rather than at the trucker who is the employer of the pickets.

In making this ruling, a three-member majority of the board reversed a finding by an N.L.R.B. trial examiner that a New York City local of the A.F.L. Teamsters' Union has violated the secondary-boycott ban by such picketing. The board dismissed all charges against the truckers' union.

The majority decision was signed by Chairman Paul M. Herzog and board members John M. Houston and Abe Murdock. Board members James J. Reynolds, Jr., and J. Copeland Gray dissented, on the ground that the principal purpose of the picketing was to induce a secondary boycott.

The charges were brought by Schultz Refrigerated Service, Inc., against Local 807 of the Teamsters' Union. The union began picketing the company's trucks after the company locked out its drivers by moving its terminal from New York City to Slackwood, N. J., near Trenton, just before the company's contract with the union expired Aug. 31, 1948.

After the move the company signed a closed-shop contract with Local 469 of the Teamsters' Union at Slackwood and replaced drivers who were members of Local 807 with members of the Slackwood local. The company continued its New York City operations, but maintained only a telephone office there.

The charges were based upon the picketing of Schultz trucks at the plants of several New York City firms for which Schultz was hauling merchandise. The pickets, in cars, followed the Schultz trucks to the plants.

When one of the trucks parked or pulled into a loading dock, the pickets formed a line around the truck. They carried signs announcing that members of Local 807 had been locked out of their jobs by Schultz.

Some of the trucks, when picketed, were at the loading docks on the premises of the customer-employer; others were parked in the street in front of the customer's premises. When the Schultz trucks departed, the pickets left.

The N. L. R. B. general counsel contended that this was secondary picketing aimed at causing the New York City firms to cease doing business with Schultz, and therefore was unlawful under the Act.

The board majority held that it was lawful primary picketing at the site of a primary labor dispute. The board based this finding on two principal facts: (1) Schultz's "fleet of commercial trucks . . . are the necessary instruments of the primary employer's operations," and (2) the picketing was "within the immediate vicinity of Schultz's own trucking operations and the aggrieved employees' own employment."

The majority opinion declared that "there was no other place in New

York City where the Respondent could give adequate notice of its dispute with Schultz. It therefore selected the struck vehicles as the most appropriate objects of primary pressure.

"In so doing the Respondent was acting in a manner traditional to employees in all other industries, who choose to stand before their place of employment and point out their replacements to the interested public as strike-breakers, and their employer as unfair."

## Felix Promoted To Assist Crosley General Manager

CINCINNATI—Clarence G. Felix, formerly works manager of the Crosley plant here, has been promoted to assistant to the general manager, John W. Craig, the Crosley division of Avco Mfg. Corp. announced recently.

Felix has been with Crosley for 22 years. He started in the engineering department and worked up to his present position.

## Bryant Purchases Jacobs' Plant

CLEVELAND—Sale of the Indianapolis plant of F. L. Jacobs Co. to Bryant Heater Co. was reported here.

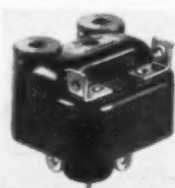


PROVES  
**KLIXON**  
Dome-Mounted  
**PROTECTORS**

Prevent Motor Burnouts of Hermetic Units

Experience proves that motors in hermetic units protected with Klixon Dome-Mounted Protectors give years of continuous service without burning out. That's the reason you find more and more hermetic manufacturers and users of hermetic compressors specifying and using hermetics with Klixon Protectors.

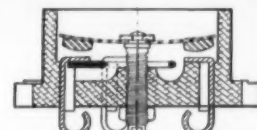
Mounted on the dome where they follow every temperature change, Klixon Protectors shut the power "off" should the motor temperature reach the danger point. Then, when the motor cools sufficiently, they snap the power "on" again automatically permitting the unit to maintain refrigeration. And because it's built-in by the hermetic manufacturer, you get a tested and proven combination that protects the motor years on end.



**KLIXON**  
MOTOR STARTING  
RELAYS  
These dependable relays complete the combination for starting and protecting the motor. Their positive action and long life eliminate starting troubles.

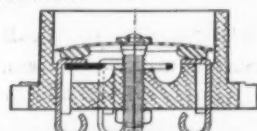
Remember, Klixon Protectors prevent motor burnouts in open-type compressors, too. Specify Klixon Protectors on all hermetic and open-type units. They'll reduce service calls, cut replacements and repairs, build product reputation and customer good will.

HERE'S HOW KLIXON PROTECTORS PROTECT



CLICK... IT'S OFF!

When temperature within the dome reaches the danger point, the Klixon Protector snaps the power "off" preventing burnouts.



CLICK... IT'S ON!

When the equipment cools to safety, the Klixon Protector snaps the power "on" automatically.

**KLIXON**

**SPENCER THERMOSTAT**  
Division of Metals and Controls Corp.  
2401 Forest Street, Attleboro, Massachusetts



# TELLING and SELLING

A GUIDE TO SMART ADVERTISING AND  
MERCHANDISING PRACTICES

This series of articles comprising ideas and principles for the small retail or manufacturing business is written by James D. Woolf, who was for more than 20 years a vice president and director of J. Walter Thompson Co., one of the largest advertising agencies. Out of his experience embracing all types of advertising and merchandising he brings his counsel to the small businessman who must plan his own advertising and promotional efforts.

## The Five Great Musts of Effective Copy

Nobody has ever improved upon the old tried-and-true formula for producing potent advertising copy:

First, attract attention (stop the reader, or listener).

Second, arouse interest (warm him up).

Third, create desire (give him a hankering).

Fourth, inspire confidence (persuade him to believe you).

Fifth, induce action (prod him into doing it NOW).

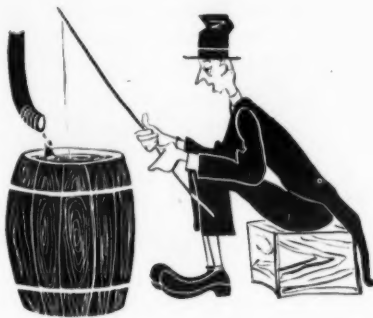
## HOW TO ATTRACT ATTENTION

Catching the eye of the reader (or the ear of the listener) is as easy as catching fish in a rain barrel. Print your advertisement upside down. That'll do it. Or illustrate it with a caricature of a bearded lady, or with a cartoon of a man biting a dog or the moon jumping over a cow.

Easy as catching fish in a rain barrel, that is, if you don't care what kind of fish you catch. But you do care. What you seek to attract is the attention of interested people, or, to put it another way, of people "in the market" for your product.

The mail order advertiser, completely dependent on copy that SELLS, wastes no dollars trying to snare the attention of mass numbers of indiscriminate readers. He focuses his appeals on smaller but selected groups of immediate customers.

Does your product solve a problem, fill a need, satisfy a specific want of a relative few? Aim your appeals, then, at SPECIFIC WANTS of this relative few—that's the secret of attracting interested attention.



## HOW TO WARM 'EM UP

Attracting attention and arousing interest are two parts of the same thing. Dr. Samuel Johnson once said, when the advertising business was still in diapers, that "the size of the promise is the soul of the advertisement." The only way you can warm up the interest of your reader (or listener) is to promise him something he wants.

Obviously the bigger the promise, the keener the interest of the reader. If your product hasn't got the stuff that attractive promises are made of, what you need isn't better copy: you need a better product. Albert Lasker, a great ad man, once said: "The product that can't succeed without advertising can't succeed with advertising."

Copy that hits at a human need, the reader's human need, and offers a way to satisfy it, need not be written with consummate skill. Just tell about it in simple, sincere words—and you've done all you can to warm 'em up.

## HOW TO MAKE 'EM HANKER

A smart psychologist once wrote that "the dream of life centers about the fictions which we invent about

ourselves." He tells us to catch ourselves in some moment of reverie and note what we are thinking about. It is quite likely we will discover, he said, that we are thinking about ourselves. We are imagining ourselves in some heroic role, or playing with the idea of ourselves as important persons, or in fancy enjoying ourselves in some other way.

Human beings spend their money with their hearts as well as their heads. Nearly all of the things people want to own and want to do are because of unconscious yearnings. It is not always safe to assume the reader realizes his need of your product or service.

He may see at once his need for what you hope to sell him. Or he may not. Always strive to relate your product to his secret inner yearnings, yens, hopes, ambition. That's the way to make 'em hanker.

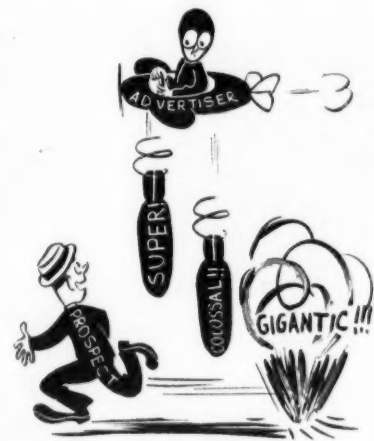
Probably few youngsters felt any acute need of Wheaties. But "The Breakfast of Champions" hit at one of the fictions which we, man, or boy, invent about ourselves.

## MAKING 'EM BELIEVE YOU

No advertisement can do a good selling job unless it is believed. The truth is the truth to the reader only when it is credible.

Of first-rate importance is this: When you make an honest promise tell WHY it is an honest promise. Be factual. Be definite. Shun generalities—be specific. You say that your product will "wear twice as long?" Well, twice as long as what? And why? What's your secret, what's the magic that produces such extraordinary durability?

Observe in your own reading the power of understatement, of restraint, of dignity. Many advertisers have yet to learn the folly and



stupidity of thinking that big, bombastic, blockbusting words can serve as effective substitutes for credible facts presented with temperance and good taste.

A potent confidence-winner is the money-back guarantee, which is offered by nearly all successful mail order advertisers. I am much impressed with the current advertising of the Schick Electric Shaver. Here, in my book, is the headline of the year: "Your New Schick Electric Shaver Must Outshave Blade Razors . . . Or Your Money Back!"

That's a big promise (Dr. Johnson's "soul of the advertisement") and Mr. Schick backs it up with cash.

## HOW TO PROD 'EM TO ACT

One sharp prod is the kind of guarantee I have just described. I urge you to inject it into your advertising.

Making it convenient for the reader to find and purchase your product is another action-getter. Always remember there is a lot going on in the world and your business is just a little part of it. If you expect people to act on your advertising make it convenient for them to do so.

Greatest of all action-prodders is the time-payment plan. If we were unable to buy our cars, our washing machines, our vacuum cleaners, our radios, and our refrigerators with "easy monthly payments," most of us would do without such luxuries.

## Crosley Announces 3-Way Split Of Harrisburg Distributorship

HARRISBURG, Pa.—A three-way split-up of the Harrisburg area Crosley distributorship, formerly held by Jules Alexandre, Inc. here, was announced by the Crosley Div., Avco Mfg. Corp.

Taking over parts of the territory are the Judson-Burns Co. of Philadelphia, the Pittsburgh Products Co. of Pittsburgh, and the Lehigh Distributing Co. of Hazelton.

## Dealer Pays Extra Commission on Outside Sales, Requires Men Go Out at Least 2 Days a Week

WASHINGTON, D. C.—Providing extra commissions for major appliances sold outside the store, and requiring each of the specialty salesmen of the organization to spend a minimum of two days per week on outside contacts, has substantially built refrigerator sales volume for Kann's, Frigidaire dealership, here.

Despite a strategic downtown location, only a few feet away from the major traffic corner of the city, Kann's feels it foolish to depend entirely upon floor traffic, according to Joseph Feinberg, veteran major appliance buyer for the Washington department store.

"Our experience has been that even though prospects may actually enter the store, those contacted in their homes, after expressing a definite interest in a specific appliance, show about 75% more sales per contact," Feinberg indicated. "Provided salesmen are given sufficient stimulus to actually 'ring doorbells', sales are bound to prosper."

Under the plan developed by the Washington store, which, incidentally, has set up its appliance department as a separate store across the street from the main building, each salesman is paid an additional commission arbitrarily upon outside sale of any major appliance carried in stock.

The adjustment varies with the specific appliance involved. It amounts to 10% or 11% on refrigerators, for example, and even more on home freezers.

The theory will work out only where salesmen are directed into the proper channels, however, Feinberg has found.

Therefore, salesmen are not subject to indiscriminate doorbell ringing, but instead, are furnished "hot tips" which are built up by an organization which is part of the sales management office.

All floor leads, suggestions from satisfied users, response to advertising, etc., are "pooled" and maintained as a market against which the salescrew works.

Each salesman may choose the two days of the week on which he intends to concentrate on outside calls. The store then provides a list of prospects, bunched as near as possible in the same residential area. The only requirement is that the salesman turn in a complete report on each call.

Due to the fact that there is no "deadwood" in the prospects furnished, Kann salesmen average an unusually high ratio of sales per home contact. Also, salesmen are far more enthusiastic, because they know that each prospect given them is worthwhile before the lead is furnished him.

As nearly as possible, Feinberg believes in setting up each major appliance salesman "in business for himself," giving each considerable latitude in making trade-in allowances, figuring ultimate sales prices resulting, etc.

"There is no denying that outside selling is a rigorous occupation," the Washington buyer said. "In order to keep top-notch specialty salesmen on the payroll, the store must co-operate by providing them with as many worthwhile prospects as possible."

## NEMA Sets April 14-22 As National Electric Housewares Week

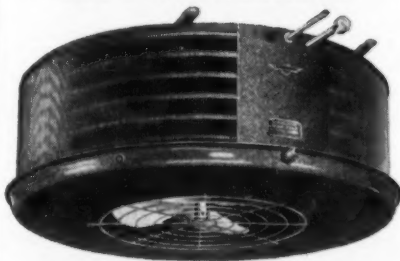
NEW YORK CITY—April 14-22 has been designated National Electric Housewares Week by the electric housewares section of the National Electrical Manufacturers Association.

This is the first such promotion sponsored by the section which will put out national advertising and display materials to cooperating dealers through their distributors. Manufacturers of electric housewares are being invited to join in and support the event.

According to the association, National Electric Housewares Week is to be "a memorable occasion that will stamp itself indelibly upon the public mind, stimulate store traffic, and help to increase sales to achieve the billion dollar year business which is the electric housewares goal."

The week is to be advertised in four-color, full-page advertising in magazines. Dealers will receive a merchandising kit that will contain window stickers, display cards, radio scripts, newspaper advertising mats, and information for window displays.

## LOOK to LARKIN for Performance



## LARKIN TURRET HUMI-TEMP

The acid test of any product is performance. That's why you will find Larkin products used so widely for so many different refrigeration and air-conditioning applications. Users know from past experience that they can count on Larkin for top performance—day in, day out—year in, year out.

Manufacturers of the original Cross-Fin Coil—Humi-Temp Units—Evaporative and Air Cooled Condensers—Air Conditioning Units and Coils—Direct Expansion Water Coolers—Steel Vacuum Plate Coils—Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

319 MEMORIAL DR. S.E. ATLANTA, GA.

## Thor-Canadian Builds Bigger Plant on Toronto Outskirts

TORONTO, Ont., Can.—A new \$2,000,000 factory with more than double the floor space of its present plant will be constructed on the outskirts of Toronto this year by Thor-Canadian Co., Ltd., a Thor Corp. subsidiary, the company announced recently.

Don't take our word for it....

ASK YOUR DEALER

## SCHAEFER BRUSHES ARE BETTER BRUSHES



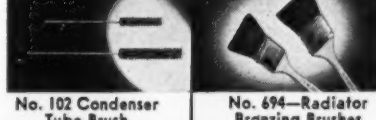
Copper Pipe Cleaning Brush



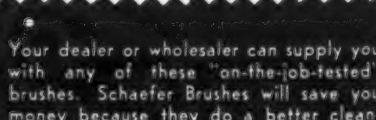
Copper Tube Fitting Brush



No. 816-Tinners Wire Brush



No. 102 Condenser Tube Brush



No. 694-Radiator Bronzing Brush

Your dealer or wholesaler can supply you with any of these "on-the-job-tested" brushes. Schaefer Brushes will save you money because they do a better cleaning job in less time.

SEND US YOUR CLEANING PROBLEM

Everyone has, from time to time, a particular job of cleaning for which no brush is suitable. When these problems arise send it to Schaefer to be solved.

SCHAEFER BRUSH MFG. CO.

117 W. Walker St., Milwaukee 4, Wis.

## DAVISON Refrigeration Grade SILICA GEL

AGAIN, this year, a poll of servicemen in the field proved that an overwhelming majority of them, when requesting a brand of refrigerant drying agent, name PA 100 Davison Refrigeration Grade Silica Gel.

Business-wise jobbers keep on hand a good supply of PA 100—the proved, safest, surest, and world's largest selling refrigerant drying agent. Check your stock now.

Sell and recommend the dehydrators charged with PA 100 . . . and in the bulk can with the blue label.

THE DAVISON CHEMICAL CORPORATION  
Progress through Chemistry

PIONEERS AND DEVELOPERS OF SILICA GEL

Canadian exclusive agents for DAVISON SILICA GEL:  
CANADIAN INDUSTRIES LIMITED, Sales Division—Chemicals Department



## ASRE Committee Faces Problems In Setting Standards for Testing, Rating Desiccants

CHICAGO—Aimed at establishing standards for testing and rating of refrigerant drying agents, the ASRE committee on desiccants faces a "multiplicity of problems," cautioned Dr. Walter O. Walker, chairman, in outlining proposed activities of the group before the forty-fifth annual meeting of the American Society of Refrigerating Engineers here.

Several commonly used drying agents will be studied in connection with two refrigerants—"Freon-12" and methyl chloride—but the initial phases of the research will be definitely limited, indicated Dr. Walker. "The evaluations will be limited to these two refrigerants and only solid desiccants, but once standards are set up and evaluations worked out, then any desiccant can be examined," he explained.

Although the committee eventually hopes to provide a complete listing of desired properties in drying agents, first studies will be confined to such properties as efficiency and capacity as found in the following desiccants:

1. Activated Alumina, as produced by Aluminum Co. of America.
2. Dical Drierite, as produced by McIntire Connector Co.
3. Drierite, as produced by W. A. Hammond Drierite Co.
4. PA-100 Silica Gel, as produced by the Davison Chemical Corp.
5. Sovabead, as produced by Socony-Vacuum Co.
6. Sporlan Catch-All, as produced by Sporlan Valve Co.

"Most important task of the committee is to set up the test procedure, and in this the committee has agreed that the phosphorous pentoxide method will be used," stated Dr. Walker. There are other methods, but basically they all go back to this one, he declared.

"Regardless of method, skill and considerable experience with the testing apparatus will be required," he warned, suggesting also that before

one attempts to run tests he should work with experienced technicians for several days in laboratories employing the phosphorous pentoxide apparatus.

As for the properties to be studied first, "efficiency" refers to the lowest water content remaining in the gas or liquid refrigerant after equilibrium between the refrigerant and desiccant has been reached.

"To be efficient a desiccant should reduce the water content to a point where it won't freeze out at low temperature," explained Dr. Walker.

"Capacity," another of the properties to be examined first, is an elusive term, because capacity varies with the amount of moisture already held by the desiccant. A desiccant which has taken up a larger quantity of moisture will by comparison then have lower efficiency than the same desiccant holding less moisture. Tests of efficiency and related capacity are to be made at 32°, 77°, and 130° F.

Methods of determining capacity and efficiency of desiccants are well advanced, but Dr. Walker said the method for determining rate of action "seems of minor importance because all desiccants operate at high speed."

Such other problems as the solubility of desiccants in fluids other than refrigerants commonly found in machines, and dusting will be studied, though probably not immediately, he explained.

"We often have methanol (methyl alcohol) in a refrigerating system, so tests of desiccants should be made with 1% and 5% alcohol in solution.

"Dusting is admittedly undesirable, but no one knows just how much dusting is undesirable. Dusting varies with tests of attrition. We will, however, circularize manufacturers of desiccants and driers as well as large manufacturers who use desiccants and driers for suggested test methods on dusting."

## Simplified Method of Determining Amount Of Moisture In Household System Described

CHICAGO — Successful development of a simplified method for determining the amount of moisture present in a charged hermetic household system was claimed in the presentation of a paper before the American Society of Refrigerating Engineers at its recent annual meeting here.

"This is not intended to be a production method or test, but it is intended to indicate a standard to compare with production methods," explained Thomas W. Duncan, research engineer for Seeger Refrigerator Co., in presenting the paper, which was entitled "Moisture Determination In Refrigerator Units."

Noting that dehydration in some manner is "accepted as a necessary step in the manufacture of refrigeration equipment," Duncan stressed the need for determining the moisture condition in a charged unit.

"This is really the important part of the entire problem, because it is in this final stage of manufacture that the service life of the equipment is determined as far as moisture damage is concerned," he asserts.

### USES PHOSPHOROUS PENTOXIDE

The method described by Duncan makes use of the phosphorous pentoxide absorption system, but the actual sampling and testing is complicated by the fact that a fully charged system contains both refrigerant and oil. Oil, which is "indistinguishable gravimetrically from absorbed moisture," would contaminate the  $P_2O_5$  absorbing towers thus prohibiting or limiting the direct application of a sample taken from the system, Duncan emphasizes.

It being impractical to separate oil from the "Freon," the method devised at Seeger is "to dry the refrigerant as it circulates and allow the dried refrigerant to sweep the moisture from the oil," he explained. "The apparatus required to do this is a drier using silica gel and cooling coils to keep the temperature of the drier as low as possible."

The special drier arrangement is hooked into the conventional system for 48 hours, after which it is removed. The moisture taken up by this drier is then driven off and

weighed to determine how much was in the system.

The drier arrangement included Kerotest valves so modified that they could be tightly clamped to the lines (in this case, a discharge line from compressor to condenser), after which the line would be punctured by needles within the valves. Crimping the discharge line between the inlet and outlet valves of the special drier arrangement would pass the refrigerant through the special drier.

### DRIER HEATED TO 300° F.

Water cooling coils were run around the drier so that maximum moisture absorption was achieved, and Duncan further pointed out that the "built-in" drier in the system was heated to about 300° F. to drive off moisture that might have collected there.

After operating the system for 48 hours, the special drier was removed from the unit and "set up in a drying train so that 'Freon' dried in a  $P_2O_5$  column can be passed through it and then through two Nesbitt bulbs containing  $P_2O_5$ ."

During this operation the drier was likewise heated to 300° F. to drive off the accumulated moisture. As to the amount of silica gel to be used, Duncan recommends that it be "of such proportion that the amount of moisture collected shall not exceed 2% by weight."

Moisture collected in the Nesbitt tubes containing phosphorous pentoxide was weighed to determine the total amount that had been in the system.

"By using this method on a number of units that had specific amounts of water added, it was found that the recovery was complete to within plus or minus 1%," Duncan said.

Presentation of this method of moisture determination brought forth some comments, including those from Charles Harris of International Harvester, who emphasized that "the method is limited to lot analysis and spot checks on production because it would require at least 56 hours to run off the test. By this time, the units would already have been shipped. Additional test methods must therefore be developed."

Moisture—in both extremes—received considerable attention at the forty-fifth annual meeting of the American Society of Refrigerating Engineers in Chicago. In one special conference the problems caused by the growing lack of water for air conditioning and refrigeration condensing purposes received a thorough airing. In a regular technical session problems caused by too much water—inside the system—were also discussed in three papers. Both sessions were covered by the NEWS, and herewith is published some of the more important data involving moisture in the systems.

## Refrigerant Samples Must Be Obtained Properly for Accurate Moisture Tests

CHICAGO—Tests to determine the amount of moisture in a refrigerant or refrigeration system can prove quite inaccurate if samples of the refrigerant are not obtained properly, asserts Dr. W. A. Pennington, chief chemist and metallurgist for Carrier Corp.

It is actually simpler to obtain representative refrigerant samples from an operating unit than from a cylinder, he said in discussing "Refrigerant Sampling" before the forty-fifth annual meeting of the American Society of Refrigerating Engineers.

"Five years ago Carrier started tests on moisture, and we found that methods of test had to be developed. We were sampling from three types of systems—static units, units with motion due to heat, and units with motion due to a pump or compressor.

"We obtained a variety of results with samples taken from a simple refrigerant cylinder, but when we started to check complete systems, sampling turned out to be simple.

Once equilibrium is reached between the moisture in the refrigerant and in the desiccant, there can be no change unless one of the conditions is changed," Dr. Pennington said.

He cited tests of samples taken from a 145-lb. "Freon-12" cylinder to show that there could be considerable variation in the apparent moisture content. Tests of samples showed that there were present 5.8 parts per million of moisture on the average, but there was a maximum deviation between the samples of 3.3 p.p.m.

Tests with a refrigerating unit containing a known amount of moisture, however, showed an average of 33.3 p.p.m., but the maximum deviation among samples was 1.7 p.p.m.

This deviation, Dr. Pennington said, was even further reduced when samples were taken from a 25-lb. cylinder which was shaken by hand before sampling. Here, with an average moisture content of 25.7 p.p.m. indicated in the samples, the maximum deviation was but 0.6 p.p.m.

Ordinary methods of taking samples of "Freon-12" in either the gaseous state or from the liquid lead to difficulties in correctly analyzing the water content, he contends.

Gas samples of refrigerant, such as "Freon-12" taken from a cylinder containing liquid refrigerant will not be truly representative, due chiefly to the phenomenon of "refluxing."

"Refluxing," essentially, is the continual evaporation and condensation of a fluid, in this case refrigerant, within a closed system, which could occur in a refrigerant cylinder when a current of warm air flowed around the lower part or a current of cold air around the upper part.

Under this condition, there would be more and more evaporation of the moisture into the gaseous refrigerant, and with consequent condensation, liquid water could actually float on top of the liquid refrigerant.

Samples taken of either the gas or liquid refrigerant, under these conditions, then, would not be representative as to the moisture content.

"As the temperature and pressure on the cylinder increased, samples would show a marked drop in moisture content," he also pointed out.

"Refrigerant does dry itself by boiling. If your cylinder leaks, for example, you'll take out a lot of moisture in this way."

Dr. Pennington also emphasized that "it is possible to lose water in laboratory equilibrium apparatus involving a refrigerant and a desiccant. Consequently, any experiment designed to measure the capacity of a desiccant should account for all water at the start and finish."

"Refrigerant units containing a desiccant, especially the absorbent type, can be sampled so as to get a refrigerant which will give a measure of the water in the desiccant."

# How Carrier breaks the ice to sell air conditioning in winter!



Hard-hitting ads like this are selling thousands of prospects in national advertising that

"Cold weather is the time to prepare for hot weather!"

Just because temperatures are down around your ankles doesn't mean it's a poor time to sell air conditioning. In fact, it's a good time. It's good for both dealer and buyer. And Carrier is out front with a strong supporting advertising and sales promotion program right now.

It's continuous, aggressive action like this that makes a Carrier franchise profitable all year round. Plus the accepted fact that Carrier products are leaders in appearance, performance, and sales appeal. Carrier Corporation, Syracuse, New York.

**Carrier**  
AIR CONDITIONING  
REFRIGERATION  
INDUSTRIAL HEATING



# 2-Year Pattern of Equipment Sales In 19 Areas of World Trade

	Jamaica		Haiti		Dominican Republic		Barbados		Trinidad		Curacao	
	1947	1948	1947	1948	1947	1948	1947	1948	1947	1948	1947	1948
Electric household refrigerators ....	92,000	43,000	44,000	61,000	175,000	336,000	41,000	17,000	84,000	9,000	215,000	367,000
Electric household refrigerator parts.	13,000	11,000	6,000	2,000	14,000	28,000	3,000	3,000	16,000	12,000	22,000	43,000
Compressors and cond. units (com'l)												
½ hp. through 3 hp. ....	6,000	2,000	....	....	29,000	22,000	....	3,000	5,000	1,000	9,000	14,000
Over 3 hp. through 10 hp. ....	6,000	1,000	2,000	....	7,000	5,000	....	....	3,000	....	3,000	5,000
Over 10 hp. ....	....	13,000	....	....	....	11,000	....	....	....	....	....	23,000
Centrifugal refrigerating units* ....	4,000	....	....	....	....	....	....	....	....	....	6,000	....
Evaporative condensers ....	3,000	....	....	....	....	5,000	....	....	2,000	....	....	1,000
Condensers except evaporative ....	....	....	....	....	....	2,000	....	....	....	....	....	....
Heat transfer equipment ....	....	....	....	....	....	2,000	....	....	....	....	....	3,000
Ice making equipment ....	5,000	17,000	13,000	....	83,000	49,000	13,000	21,000	1,000	6,000	37,000	50,000
Air diffuser units ....	6,000	....	....	....	2,000	6,000	....	....	....	....	....	5,000
Self-contained com'l refrig. equipment	26,000	17,000	21,000	7,000	168,000	187,000	7,000	4,000	12,000	4,000	152,000	143,000
Liquid coolers ....	1,000	....	....	....	1,000	2,000	....	....	1,000	3,000	1,000	8,000
Self-contained air conditioners												
Under 2 tons ....	....	....	....	1,000	2,000	8,000	....	....	9,000	2,000	18,000	44,000
2 tons and over ....	5,000	3,000	5,000	....	36,000	9,000	....	....	10,000	1,000	5,000	16,000
Mechanical commercial refrigerators.	4,000	2,000	1,000	....	32,000	19,000	....	1,000	....	....	26,000	32,000
Auxiliary equipment ....	15,000	5,000	2,000	2,000	31,000	31,000	5,000	4,000	12,000	....	24,000	49,000
Parts for foreign assembly ....	1,000	....	....	2,000	1,000	1,000	....	....	....	8,000	2,000	....
Replacement parts ....	6,000	1,000	2,000	....	6,000	5,000	....	....	5,000	1,000	2,000	19,000
<b>Total</b> .....	<b>193,000</b>	<b>115,000</b>	<b>96,000</b>	<b>75,000</b>	<b>587,000</b>	<b>728,000</b>	<b>69,000</b>	<b>53,000</b>	<b>160,000</b>	<b>47,000</b>	<b>522,000</b>	<b>822,000</b>

	French West Indies		Colombia		Venezuela		British Guiana		Surinam		Ecuador	
	1947	1948	1947	1948	1947	1948	1947	1948	1947	1948	1947	1948
Electric household refrigerators ....	25,000	49,000	449,000	687,000	2,116,000	4,399,000	25,000	17,000	30,000	25,000	169,000	174,000
Electric household refrigerator parts.	1,000	1,000	53,000	81,000	192,000	248,000	4,000	2,000	4,000	2,000	14,000	12,000
Compressors and cond. units (com'l)												
½ hp. through 3 hp. ....	....	1,000	82,000	119,000	145,000	357,000	2,000	1,000	1,000	....	9,000	2,000
Over 3 hp. through 10 hp. ....	4,000	....	27,000	8,000	25,000	45,000	....	....	....	....	....	1,000
Over 10 hp. ....	....	3,000	2,000	50,000	69,000	107,000	2,000	2,000	....	....	....	4,000
Centrifugal refrigerating units* ....	....	....	5,000	....	6,000	....	....	....	....	....	....	....
Evaporative condensers ....	....	....	4,000	....	3,000	16,000	....	....	....	....	....	....
Condensers except evaporative ....	....	....	1,000	1,000	5,000	19,000	....	....	2,000	....	....	....
Heat transfer equipment ....	....	....	4,000	11,000	29,000	48,000	....	....	....	....	1,000	....
Ice making equipment ....	9,000	18,000	179,000	148,000	290,000	634,000	4,000	67,000	....	....	14,000	51,000
Air diffuser units ....	....	....	23,000	8,000	30,000	19,000	....	....	....	....	....	....
Self-contained com'l refrig. equipment	2,000	4,000	506,000	322,000	1,937,000	1,949,000	18,000	1,000	4,000	7,000	67,000	58,000
Liquid coolers ....	....	....	7,000	3,000	18,000	21,000	1,000	....	1,000	....	1,000	....
Self-contained air conditioners												
Under 2 tons ....	....	....	49,000	9,000	121,000	89,000	....	1,000	....	1,000	3,000	11,000
2 tons and over ....	....	....	74,000	57,000	49,000	64,000	....	....	....	....	....	1,000
Mechanical commercial refrigerators.	....	....	223,000	111,000	294,000	410,000	2,000	....	2,000	1,000	15,000	17,000
Auxiliary equipment ....	7,000	3,000	1,153,000	1,056,000	410,000	509,000	....	3,000	....	2,000	27,000	23,000
Parts for foreign assembly ....	....	....	15,000	51,000	24,000	101,000	....	....	....	....	....	2,000
Replacement parts ....	1,000	....	77,000	52,000	54,000	75,000	2,000	2,000	4,000	1,000	1,000	3,000
<b>Total</b> .....	<b>49,000</b>	<b>79,000</b>	<b>2,933,000</b>	<b>2,774,000</b>	<b>5,817,000</b>	<b>9,110,000</b>	<b>60,000</b>	<b>96,000</b>	<b>49,000</b>	<b>39,000</b>	<b>321,000</b>	<b>359,000</b>

	Peru		Bolivia		Chile		Brazil		Paraguay		Uruguay		Argentina	
	1947	1948	1947	1948	1947	1948	1947	1948	1947	1948	1947	1948	1947	1948
Electric household refrigerators ....	336,000	242,000	44,000	42,000	395,000	152,000	6,832,000	7,638,000	41,000	25,000	331,000	80,000	2,433,000	1,132,000
Electric household refrigerator parts.	25,000	19,000	3,000	2,000	44,000	93,000	376,000	284,000	7,000	1,000	89,000	91,000	1,511,000	304,000
Compressors and cond. units (com'l)														
½ hp. through 3 hp. ....	25,000	33,000	....	....	21,000	22,000	1,046,000	1,328,000	5,000	1,000	140,000	137,000	1,108,000	988,000
Over 3 hp. through 10 hp. ....	7,000	7,000	....	1,000	2,000	9,000	129,000	51,000	....	....	32,000	26,000	86,000	88,000
Over 10 hp. ....	5,000	....	1,000	1,000	78,000	7,000	148,000	157,000	2,000	12,000	39,000	50,000	274,000	411,000
Centrifugal refrigerating units* ....	1,000	....	....	....	1,000	....	14,000	20,000	....	....	....	....	34,000	....
Evaporative condensers ....	7,000	....	....	....	....	....	28,000	37,000	....	3,000	1,000	9,000	15,000	9,000
Condensers except evaporative ....	4,000	6,000	....	....	2,000	....	73,000	14,000	....	....	23,000	12,000	107,000	8,000
Heat transfer equipment ....	14,000	1,000	....	....	14,000	24,000	29,000	86,000	....	2,000	10,000	7,000	40,000	100,000
Ice making equipment ....	37,000	11,000	3,000	6,000	12,000	11,000	88,000	124,000	3,000	20,000	31,000	19,000	63,000	25,000
Air diffuser units ....	6,000	10,000	....	....	16,000	4,000	14,000	77,000	....	....	....	1,000	29,000	1,000
Self-contained com'l refrig. equipment	55,000	28,000	1,000	3,000	46,000	8,000	1,442,000	800,000	13,000	12,000	109,000	24,000	666,000	299,000
Liquid coolers ....	....	3,000	....	....	....	2,000	34,000	36,000	....	....	4,000	11,000	206,000	45,000
Self-contained air conditioners														
Under 2 tons ....	2,000	3,000	1,000	....	1,000	25,000	227,000	85,000	1,000	4,000	12,000	16,000	128,000	46,000
2 tons and over ....	2,000	2,000	....	....	6,000	16,000	111,000	139,000	....	....	30,000	113,000	137,000	152,000
Mechanical commercial refrigerators.	7,000	1,000	1,000	....	13,000	....	219,000	47,000	11,000	....	1,000	8,000	74,000	7,000
Auxiliary equipment ....	77,000	113,000	10,000	9,000	180,000	80,000	885,000	955,000	5,000	16,000	162,000	186,000	794,000	625,000
Parts for foreign assembly ....	2,000	....	....	....	3,000	....	39,000	107,000	....	4,000	49,000	37,000	83,000	126,000
Replacement parts ....	4,000	2,000	....	....	16,000	33,000	138,000	99,000	1,000	2,000	34,000	78,000	423,000	62,000
<b>Total</b> .....	<b>616,000</b>	<b>481,000</b>	<b>64,000</b>	<b>64,000</b>	<b>850,000</b>	<b>486,000</b>	<b>11,872,000</b>	<b>12,084,000</b>	<b>89,000</b>	<b>102,000</b>	<b>1,097,000</b>	<b>905,000</b>	<b>8,211,000</b>	<b>4,428,000</b>

\*Includes absorption and adsorption systems.



## Key Export Publications Are Effective Tools In Keeping Abreast of World Trade

By Eugene Hesx, International Market Analyst and Instructor, University of Detroit

In this final part of our world survey, we wish to present our readers with an indication of the sources used for the study which has appeared in these columns from October, 1949, on.

Since this entire study is nothing but the fruit of an intensive investigation regarding our international markets, the object of these lines may be re-defined as a suggestion for setting up a compact but effective research department.

It would, of course, not be difficult to give a list of all government publications and national and international magazines and newspapers which could be used for a continued research. However, the art seems to be

to restrict the source material to the absolute necessary in order to avoid all possibility of unnecessary paperwork and red tape.

The first place in work of this kind is undoubtedly reserved for a market analysis of that very American manufacturer who wishes to study his foreign markets. This analysis can only be made with the help of his old figures, leading up to his present business with international consumers of his products.

Once this picture is obtained, and with the help of percentage figures compared to the potential turnover, as explained in the preceding article, we can proceed to organize for future business.

Our first task being to obtain all information pertaining to export practices as prescribed by today's regulations, it is essential to subscribe to and constantly consult the *Exporter's Encyclopedia*, issued yearly in New York. This excellent work is being kept up to date with a flow of circulars addressed to the subscriber. In as far as export and import restrictions are not fully mentioned or not given in sufficient detail, a subscription to the publication of our Department of Commerce, *Foreign Commerce Weekly*, appears inevitable.

With the help of these two tools, the exporter is already able to survey the changing technical regulations for his foreign business.

We come now to the task of keeping the figures of actual exports of the American industry up to date. The best source is a monthly report issued by the Department of Commerce under the number FT 410. In these statistics, products and countries will be found corresponding to the statistics published in these articles.

The final and most difficult object of continued study must be the careful observation of economic developments on the international scene. The reader will continue to find in AIR CONDITIONING & REFRIGERATION NEWS items referring to changes in the many trading regions outside the United States of equipment of our industries. Furthermore, it may be advisable to pursue one of our well informed American newspapers for a careful observation of the ever changing picture of world economy.

The difficulty of choice is not easy to overcome, but, with our object in mind, it will probably fall on *The New York Times* or *The Christian Science Monitor*. Both of these dailies have a well informed staff of their own covering practically every country, politically and economically. For the finer points of world trade development, explaining clearly the political effects of economic happenings and vice-versa, regular reading of the *United States News and World Report* and also of the English *Economist* will be of great benefit. The latter is also publishing a special supplement on world affairs which must be subscribed to separately.

A well-informed magazine, *The Exporter's Digest* of New York, will keep the exporter posted on all important developments in both the economic and the export-technical field.

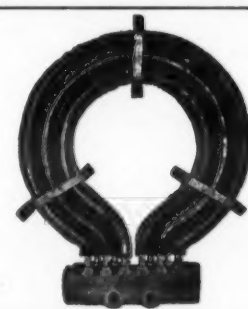
The above outline contains the sources for the information considered essential for this type of work. It goes without saying that the information thus obtained should be combined with that knowledge which the American manufacturer constantly receives from his foreign representatives or his foreign subsidiaries.

Last, but certainly not least, all the leading banks of this country are constantly on the alert for the American manufacturer and will be only too glad to put him on the mailing list for their regular and irregular publications regarding foreign markets, foreign currencies, and promptness of payment in the different countries.

## W. W. Willson Buys Out Maine Firm's Home Appliance Business

BOOTHBAY HARBOR, Me.—William W. Willson has purchased the gas and appliance business operated here by N. A. Greenleaf for the past 10 years. A new service department has been added to handle refrigeration and appliance repairs.

## ROME-CONDENSER ★ Jointless Type ★



Rome Water Cooled Condensers. Coils insure trouble-free condensing equipment. Used by leading compressor manufacturers.

**ROME-TURNEY RADIATOR COMPANY**  
222 CANAL ST.  
ROME, N. Y.



# Details on Which Employees Are Affected By Fair Labor Standards Amendments

WASHINGTON, D. C.—The fair labor Standards Amendments of 1949, which among other things, boosted the minimum wage from 40 cents per hour to 75 cents per hour, also included changes which affect wage-hour coverage, overtime pay, and child-labor provisions.

Several added exemptions were likewise provided for under the new law as well as some revisions in the former exceptions, including those for certain "white collar" employees.

The new law takes effect Jan. 25, 1950. In brief, the present status of the various sections are as follows:

**1. WAGE-HOUR COVERAGE:** Under the amendments, as formerly, wage and hour coverage under the Fair Labor Standards Act will apply to employees engaged in interstate commerce or in the production of goods for interstate commerce.

Previously, employees "engaged in the production of goods" included (in addition to employees actually producing goods for interstate commerce) those employees "in any process or occupation necessary to the production thereof." However, under the amended act the test of coverage for this latter group is whether an employee is engaged in "any closely related process or occupation directly essential to the production thereof."

**2. MINIMUM WAGE:** The minimum wage requirement is increased by the amendments to 75 cents an hour, replacing the former 40-cent-an-hour minimum wage. Each covered employee not exempt must be paid at the rate of not less than 75 cents an hour, whether the employee is paid by the hour, by the week, or other basis, the amendment states.

The amended act otherwise continues in effect the former provision that sub-minimum rates may be paid to such employees and to certain learners, apprentices, and handicapped workers, provided a special certificate is issued in accordance with regulations promulgated by the Administrator of the Wage and Hour Div., U. S. Department of Labor.

**3. OVERTIME PAY:** Under the amendments, the overtime-pay provisions of the act are revised to make clear what payments to an employee must be included and what payments may be excluded in computing the required time and one-half compensation for hours worked in excess of 40 in the workweek.

**4. CHILD LABOR:** The amendments broaden the child-labor provisions (which set a minimum age of 16 for general employment and 18 for hazardous jobs) by directly prohibiting the employment of boys and girls below the minimum age in commerce or in the production of goods for commerce including any closely related occupation or process directly essential to such production.

The amended act, however, retains the former provision which prohibits the shipment or delivery for shipment in interstate commerce by any producer, manufacturer, or dealer of any goods produced in establishments, in or about which, minors have been employed contrary to the minimum age standards set by the act, within 30 days prior to removal of the goods.

An exception is provided under specified conditions for certain purchasers acting in good faith, in reliance on written statements of compliance.

**5. EXEMPTIONS:** Under the amendments, as before, a number of specific exemptions are provided from the wage and hour requirements of the act, although the amendments make some changes in the former exemptions and provide a number of new exemptions.

The exemptions are not the same in all instances; some may be complete exemption from both the minimum wage and overtime provisions of the act, while others are complete or only partial-exemption from the overtime provisions only.

Furthermore, exemptions may be made inapplicable during a workweek by the performance of non-exempt work. And, it should be noted that these exemptions do not apply to the child-labor provisions, from which there are fewer and more restrictive exemptions.

Included in the list of employees exempt from both the minimum wage and overtime provisions of the act are:

(a)—Employees in a bona fide executive, administrative, professional or local retailing capacity, or in the capacity of outside salesmen, as defined by the Administrator.

(b)—Employees of retail or service establishments and of establishments laundering, cleaning, or repairing clothing or fabrics, if such establishments meet the specific tests set forth in the act.

Included in the list of employees exempt from only the overtime provisions of the act are:

(a)—Employees of certain railroads and pipe lines and certain employees of motor carriers subject to regulation by the Interstate Commerce Commission; and of certain carriers by air.

(b)—Certain employees of employers engaged in the first processing of milk, cream, skimmed milk, butter-milk, or whey into dairy products, in the ginning and compressing of cotton, in the processing of cottonseed, and in the processing of sugar beets, sugar-beet molasses, sugarcane or maple sap, into sugar (but not refined sugar) or into sirup.

The following are exempt from only the overtime provisions of the act for a total of not more than 14 workweeks in any calendar year:

Certain employees of employers engaged in the first processing, canning, or packing of perishable or seasonal fresh fruits and vegetables; or in the first processing, within the Area of Production (as defined by the Administrator) of certain agricultural commodities during seasonal operations; or in handling, slaughtering, or dressing poultry or livestock.

The following are partially exempt (up to 12 hours in a day or 56 hours on a work-week) from only the overtime provisions of the act:

(a)—Employees in industries which the Administrator has specifically found to be of a seasonal nature—but only for a period or periods not exceeding a total of 14 workweeks in any calendar year.

(b)—Employees working under either a guaranteed annual employment agreement, or under an agreement limiting the hours worked in any 26-week period, and meeting conditions specified in the act. Such agreements must be made as a result of collective bargaining by representatives of employees certified as bona fide by the National Labor Relations Board.

Failure to comply with the special overtime provisions of these exemptions makes the employer liable for overtime pay for all hours of work over 40 in each work-week, the law states.

**6. RECOVERY OF BACK WAGES:** The amendments add two methods to the original provision of the act for employee suits for the recovery of unpaid minimum and/or overtime wages due. The act now provides that:

(1)—The employee may bring suit against the employer to recover the wages withheld, together with liquidated damages in an amount equal to the back wages due, plus a reasonable fee for an attorney, and suit costs. Under specified conditions, the court may limit or eliminate the recovery of liquidated damages from employers found to have acted in good faith.

(2)—The Administrator of the Wage and Hour Division may supervise the payment of back wages for employees. Employees who agree to accept such payment and are paid in full the unpaid minimum wages or the unpaid overtime compensation owing to them under the act waive their independent statutory rights to such back pay and to liquidated damages.

(3)—The Administrator, on the written request of affected employees, may bring suit against the employer to recover back wages due. Employees consenting to the bringing of such suits waive their independent right to sue for such back pay and for liquidated damages.

The new regulation also contains "tests" of duties, responsibilities, salary levels, and other basic requirements which employers must apply in determining which of their employees may be exempt from the wage and hour provisions of the Wage-Hour Law as an "executive," "administrative," "professional," "local retailing," or "outside salesman"

type of employee.

One change, in the definition of "professional," was made in the interest of clarity. Another change bases the sales volume test of the "local retailing" definition on "retail sales of goods or services of which more than 50% of the dollar volume are being made within the State..." instead of on sales "the greater part of which are in intrastate commerce," to conform with the apparent intent of the Congress in passing the amendments. The third change adds the retail sale of "service" to the "local retailing" definition.

Text of this section of the revised regulation is as follows:

**1. EXECUTIVE:** The term "employee employed in a bona fide executive... capacity" shall mean any employee

(a) whose primary duty consists of the management of the enterprise in which he is employed or of a customarily recognized department or subdivision thereof;

(b) who customarily and regularly directs the work of two or more other employees therein;

(c) who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight;

(d) who customarily and regularly exercises discretionary powers;

(e) who does not devote more than 20 per cent of his hours worked in the workweek to activities which are not directly and closely related to the performance of the work described in paragraphs (a) through (d) of this section: provided that this paragraph (e) shall not apply in the case of an employee who is in sole charge of an independent establishment or a physically separated branch establishment, or who owns at least a 20 per cent interest in the enterprise in which he is employed;

(f) who is compensated for his services on a salary basis at a rate of not less than \$55 per week (or \$30 per week if employed in Puerto Rico or the Virgin Islands) exclusive of board, lodging, or other facilities: Provided that an employee who is compensated on a salary basis at a rate of not less than \$100 per week (exclusive of board, lodging, or other facilities), and whose primary duty consists of the management of the enterprise in which he is employed or of a customarily recognized department or subdivision thereof, and includes the customary and regular direction of the work of two or more other employees therein, shall be deemed to meet all of the requirements of this section.

**2. ADMINISTRATIVE:** The term "employee in a bona fide... administrative... capacity" shall mean any employee

(a) whose primary duty consists of the performance of office or non-manual field work directly related to management policies or general business operations of his employer or his employer's customers;

(b) who customarily and regularly exercises discretion and independent judgment;

(c) (1) who regularly and directly assists a proprietor, or an employee employed in a bona fide executive or administrative capacity (as such terms are defined in these regulations), or (2) who performs under only general supervision work along specialized or technical lines requiring special training, experience, or knowledge, or (3) who executes under only general supervision special assignments and tasks;

(d) who does not devote more than 20 per cent of his hours worked in the workweek to activities which are not directly and closely related to the performance of the work described in paragraphs (a) through (c) of this section;

(e) who is compensated for his services on a salary or fee basis at a rate of not less than \$75 per week (or \$200 per month if employed in Puerto Rico or the Virgin Islands) exclusive of board, lodging, or other facilities:

Provided that an employee who is compensated on a salary or fee basis at a rate of not less than \$100 per week (exclusive of board, lodging, or other facilities), and whose primary duty consists of the performance of office or non-manual field work directly related to management policies or general business operations of his employer or his employer's customers, shall be deemed to meet all of the requirements of this section.

**3. PROFESSIONAL:** The term "employee employed in a bona fide... professional... capacity" shall mean any employee

(a) whose primary duty consists of the performance of work (1) requiring knowledge of an advanced type in a field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction and study, as distinguished from a general academic education and from an apprenticeship, and from training in the performance of routine mental, manual, or physical processes, or (2) original and creative in character in a recognized field of artistic endeavor (as opposed to work which can be produced by a person endowed with general manual or intellectual ability and training), and the result of which depends primarily on the invention, imagination, or talent of the employee;

(b) whose work requires the consistent exercise of discretion and judgment in its performance;

(c) whose work is predominantly intellectual and varied in character (as opposed to routine mental, manual, mechanical, or physical work) and is of such a character that the output produced or the result accomplished cannot be standardized in relation to a given period of time;

(d) who does not devote more than 20 per cent of his hours worked in the workweek to activities which are not an essential part of and necessarily incident to the work described in paragraphs (a) through (c) of this section;

(e) who is compensated for his services on a salary or fee basis at a rate of not less than \$75 per week (or \$200 per month if employed in Puerto Rico or the Virgin Islands) exclusive of board, lodging, or other facilities:

Provided that an employee who is compensated on a salary or fee basis at a rate of not less than \$100 per week (exclusive of board, lodging, or other facilities), and whose primary duty consists of the performance of office or non-manual field work directly related to management policies or general business operations of his employer or his employer's customers, shall be deemed to meet all of the requirements of this section.

Provided that an employee who is compensated on a salary or fee basis at a rate of not less than \$100 per

week (exclusive of board, lodging, or other facilities), and whose primary duty consists of the performance of office or non-manual field work directly related to management policies or general business operations of his employer or his employer's customers, which includes work requiring the exercise of discretion and independent judgment, shall be deemed to meet all of the requirements of this section.

**3. PROFESSIONAL:** The term "employee employed in a bona fide... professional... capacity" shall mean any employee

(a) whose primary duty consists of the performance of work (1) requiring knowledge of an advanced type in a field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction and study, as distinguished from a general academic education and from an apprenticeship, and from training in the performance of routine mental, manual, or physical processes, or (2) original and creative in character in a recognized field of artistic endeavor (as opposed to work which can be produced by a person endowed with general manual or intellectual ability and training), and the result of which depends primarily on the invention, imagination, or talent of the employee;

(b) whose work requires the consistent exercise of discretion and judgment in its performance;

(c) whose work is predominantly intellectual and varied in character (as opposed to routine mental, manual, mechanical, or physical work) and is of such a character that the output produced or the result accomplished cannot be standardized in relation to a given period of time;

(d) who does not devote more than 20 per cent of his hours worked in the workweek to activities which are not an essential part of and necessarily incident to the work described in paragraphs (a) through (c) of this section;

(e) who is compensated for his services on a salary or fee basis at a rate of not less than \$75 per week (or \$200 per month if employed in Puerto Rico or the Virgin Islands) exclusive of board, lodging, or other facilities: provided that this paragraph (e) shall not apply in the case of an employee who is the holder of a valid license or certificate permitting the practice of law or medicine or any of their branches and who is actually engaged in the practice thereof:

Provided that an employee who is compensated on a salary or fee basis at a rate of not less than \$100 per week (exclusive of board, lodging, or other facilities), and whose primary duty consists of the performance of work either requiring knowledge of an advanced type in a field of science or learning, which includes work requiring the consistent exercise of discretion and judgment, or requiring invention, imagination, or talent in a recognized field of artistic endeavor, shall be deemed to meet all of the requirements of this section.

**4. LOCAL RETAILING CAPACITY:** The term "employee employed in a bona fide... local retailing capacity" shall mean any employee—

(a) who customarily and regularly is engaged in (1) making retail sales of goods or services of which more than 50 per cent of the dollar volume are made within the State

where his place of employment is located, or (2) performing work immediately incidental thereto, such as the wrapping or delivering of packages;

(b) whose hours of work of a nature other than that described in paragraphs (a) (1) or (a) (2) of this section do not exceed 20 per cent of the hours worked in the workweek by non-exempt employees of the employer.

**5. OUTSIDE SALESMAN:** The term "employee employed... in the capacity of outside salesman" shall mean any employee—

(a) who is employed for the purpose of and who is customarily and regularly engaged away from his employer's place or places of business in (1) making sales within the meaning of section 3 (k) of the act, or (2) obtaining orders or contracts for services or for the use of facilities for which a consideration will be paid by the client or customer;

(b) whose hours of work of a nature other than that described in paragraphs (a) (1) or (a) (2) of this section do not exceed 20 per cent of the hours worked in the workweek by non-exempt employees of the employer: provided, that work performed incidental to and in conjunction with the employee's own outside sales or solicitations, including incidental deliveries and collections, shall not be regarded as non-exempt.

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(b) whose hours of work of a nature other than that described in paragraphs (a) (1) or (a) (2) of this section do not exceed 20 per cent of the hours worked in the workweek by non-exempt employees of the employer.

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(b) whose hours of work of a nature other than that described in paragraphs (a) (1) or (a) (2) of this section do not exceed 20 per cent of the hours worked in the workweek by non-exempt employees of the employer: provided, that work performed incidental to and in conjunction with the employee's own outside sales or solicitations, including incidental deliveries and collections, shall not be regarded as non-exempt.

(b) whose hours of work of a nature other than that described in paragraphs (a) (1) or (a) (2) of this section do not exceed 20 per cent of the hours worked in the workweek by non-exempt employees of the employer: provided, that work performed incidental to and in conjunction with the employee's own outside sales or solicitations, including incidental deliveries and collections, shall not be regarded as non-exempt.

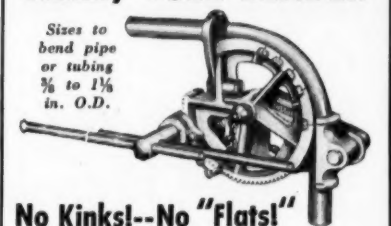
## Year-Round A. C. Installed In Spectrographic Lab

WATERBURY, Conn.—Westinghouse year-round air conditioning was recently installed in the Spectrographic Laboratory of The American Brass Co. here by J. P. Sahmini Co., Inc., franchised Westinghouse engineering contractor. The system allows for close control of temperature and humidity required for testing and research.

## Sheepshead Appliance Co. Files

KINGS, N. Y.—Articles of incorporation have been filed with the secretary of state for Sheepshead Appliance Co., Inc., which will handle electric refrigerators, radios, etc. Ben Charles Asher, Louis A. Carucci, and Anita Ginman, all of New York City, were listed as directors.

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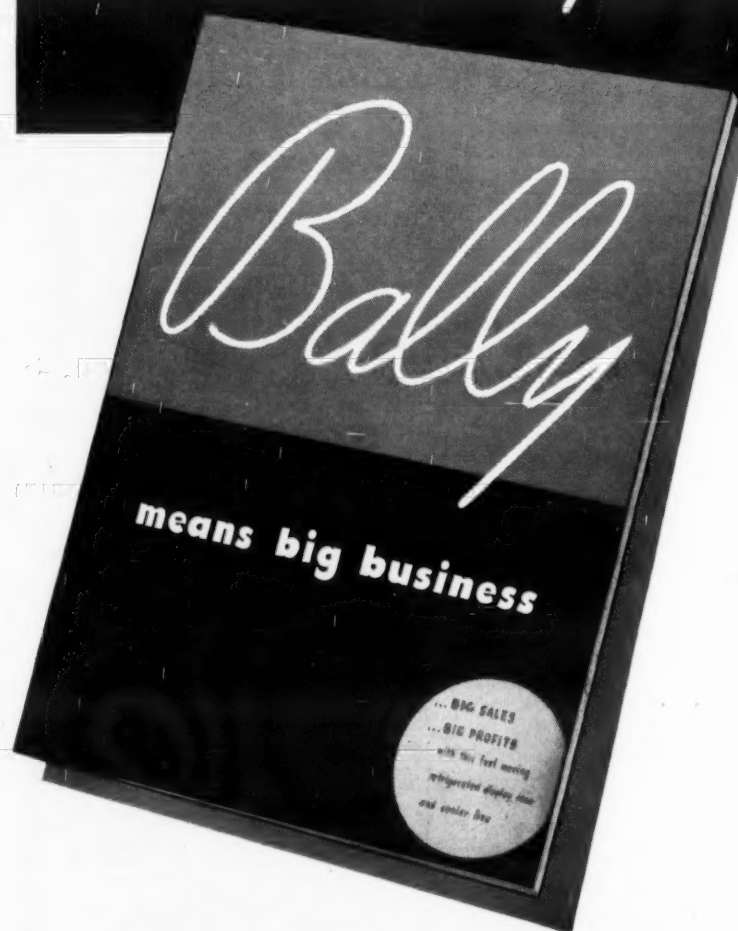
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**BALLY, PENNSYLVANIA**

## Refrigeration Problems

and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

### Color Fading of Lunch Meats

Until a few years ago, complaints from the butcher, of discoloration of some of the meat, usually turned out to be darkening of the surface due to drying. This could be corrected by raising the humidity of the refrigerated air around the meats or in some cases, lowering its velocity over the meats.

Just a few years ago another type of discoloration of meat began to be noticed, and today it is quite common. In this recent type of discoloration, the meat "fades," or loses color, instead of turning dark. It is especially noticeable in the case of the so-called "lunch meats," such as bologna, veal loaf, or boiled ham. Fresh meats are very little affected.

It was soon noticed that this fading of color occurred principally with meats exposed to fluorescent lights, so the fluorescent lights were blamed. This became a serious matter, not only to the manufacturers of display cases for meats, but also to the manufacturers of the fluorescent lights, and to the meat packers.

#### FADING HARMFUL IN APPEARANCE ONLY

It was small consolation that the faded meat was perfectly good to eat—its flavor was not even affected. But the housewife did not want to accept such odd looking meat, and her husband shied away from it if it was put on the table. Its quality, food value, and palatability were not affected by the fading, but it would not sell.

A good deal of time and money has been spent in finding out about fading of meats exposed to fluorescent and other types of lighting. It has been definitely determined that the fading is caused by the light and that the amount of fading depends upon:

1. The intensity of the light.
2. The duration of exposure.

That is, fading of the meats shows up quickly under a strong light, and the weaker the light, the longer it is before fading shows up. Light on the meat causes a chemical change in the meat. The color pigments in the meat are affected, and the color gradually fades. The meat is apparently not damaged, except in appearance.

Light can be measured just as can temperature, speed, electric current, etc. The unit of measurement of light is the foot-candle, which is the amount of light shed on one square foot of surface by a standard candle placed one foot away. Two foot-candles of light means an intensity of light twice as much as one foot-candle, and so on.

The selenium cell is sensitive to light; light falling on it produces a very small amount of electricity, enough to operate a sensitive meter, calibrated in foot-candles, and such an instrument is called a foot-candle meter. It measures light intensity directly in foot-candles.

#### PHOTO EXPOSURE METER MEASURES LIGHT INTENSITY

Photographers use "exposure meters," which are in reality foot-candle meters. In fact, the G-E model DW exposure meter is calibrated directly in foot-candles. Conversion tables may be used to convert their readings to foot-candles. Therefore, exposure meters of the selenium cell type can be used to measure light intensity in refrigerated display cases, etc.

Experiments by several companies, including General Electric Co.; Hussmann Refrigeration, Inc.; McCray Refrigerator Co.; and Swift & Co., working independently, show that if the light on the meat is not very bright, that is, measures less than 35 foot-candles, there is little likelihood of the meat fading even if the meat is kept under the light for several days.

If the light intensity is above 35 foot-candles, then fading is very apt to take place. How soon fading shows up depends on:

1. How bright the light is and
2. How long the meat is kept under the light.

#### 200 FOOT-CANDLE HOURS YARDSTICK

It has been found that 200 foot-candle hours can be used as a guide to determine when the fading can be expected to show up. That is, if the light intensity is 100 foot-candles, fading may show up in two hours or less ( $200 \div 100 = 2$ ). If the light intensity is 50 foot-candles, fading may show up in four hours ( $200 \div 50 = 4$ ).

This figure of 200 foot-candle hours applies to sliced "lunch meats," bologna, veal loaf, boiled ham, etc. For fresh meats, such as beef steak, a figure of 4,000 foot-candle hours should be used. That is, a piece of fresh beef could be placed under a strong light of 100 foot-candles for 40 hours (over four days of time the lights would be on) before any indication of fading could be detected.

#### FADING DEPENDS ON INTENSITY, NOT KIND OF LIGHT

Careful and extensive investigations and experiments have brought out a very important fact:

*The type of light makes no difference in the fading, providing the light intensity as measured in foot-candles, remains the same.*

Thus it makes no difference whether the light is white, bluish, pinkish, or any other color if the intensity is the same; that is, if the meat is as brilliantly lighted.

The use of light filters made no difference, even filters that filter out the ultra-violet rays. For some time it was thought that the ultra-violet rays, which are the non-visible rays above the visible violet rays in the spectrum, were the part of the light that was causing the fading. However, it has been proven that the presence or absence of the ultra-violet rays make no difference, one way or another.

Moreover, these investigations show that it makes no difference whether the light comes from a fluorescent lamp, an ordinary tungsten filament bulb, or from daylight, as long as the light intensity is the same.

The reason the fluorescent lights were blamed so quickly is because they are quite bright, but if enough ordinary tungsten filament lamps had been used in order to get as bright a light on the meat, then the fading would have shown up as soon as for the fluorescent lights, provided, that the light intensity was the same.

#### MODERN FIXTURES LIGHTED MORE BRILLIANTLY

"But," someone says, "we didn't have this trouble with the old lights. It was not until we used fluorescent lights that the fading started to show up."

The answer is quite simple. For the same wattage, fluorescent lights give a great deal brighter lighting, and the brighter lighting—the greater the light intensity, is what caused the fading of the lunch meats to show up more rapidly.

Cut down on the lighting so that the case is lighted no better than it was back a few years ago, and you get rid of color fading of the

meats. But your customer, the meat merchant, won't let you do that. He has found that light is a good salesman.

Brightly lighted meat displays cause the shopper to buy more meat, so the meat merchant is willing to watch the lunch meats much closer and keep the top slices sold off, rather than to go back to the dim lighting of several years ago. Greater care with his lunch meats is the price he pays for better lighting of his meat display, and the increased business that it brings to him.

### Low-Cost Electronic Control Designed for Industrial Processing

MINNEAPOLIS—A "highly accurate and low-cost" electronic control instrument that for industrial applications is sensitive to temperature changes as small as one-tenth of one degree has been developed by Minneapolis-Honeywell Regulator Co., the company announced recently.

The device will control industrial processing temperatures in which the temperature range is between -20° and 300°, said John B. Moxness, company industry engineer.

The control, known as No. 077, is immune to vibration, dust and dampness, and where both control and a record is required, may be used with indicating or recording instruments made by Honeywell's Brown Instruments division, through which it will be distributed early next year, according to Moxness.

The model operates on the principle that resistance of a wire-wound sensing element varies in proportion to the temperature of the control medium. The sensing element forms one leg of a Wheatstone bridge circuit so that any minute change in temperature causes the bridge to become unbalanced and permits current to flow.

Electrical unbalance of the bridge is imposed on an electronic amplifier which amplifies and detects the direction of unbalance to operate either of two output relays, according to the direction of temperature change. The two relays control a motor.

This principle is being used successfully, Moxness said, for temperature control on trains and street cars.

### Al Sawyer Will Represent Dole In Southeastern Area

CHICAGO—Albert F. Sawyer, associated with the engineering department of Dole Refrigerating Co. here for more than 11 years, was recently named district factory representative in the southeastern territory, the company has announced.



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# Philco Shows 8 New Refrigerators, 9 Ranges; Adds 12-Cu. Ft. Home Freezer to 1950 Line



Refrigerator Model 1107 (11.5 cu. ft.)



Refrigerator Model 702 (7.2 cu. ft.)

By John O. Sweet

CHICAGO—New 1950 lines of refrigerators, electric ranges, and single room air conditioners and a new 12-cu. ft. chest-type freezer were introduced by Philco Corp. at its mid-winter distributor convention at the Palmer House here Jan. 5-6.

Also revealed were Philco's 1950 advertising, sales promotion, sales training, and service and accessories programs. During the course of the meeting, company officials announced that:

1. Discounts have been stepped up.
2. A new sales training division has been set up, headed by Gus Kurz, former Rocky Mt. division manager. As its first activity, the division will bring all district sales representatives to Philadelphia for a thorough indoctrination in the Philco story.

Philco's new refrigerator line consists of eight models, plus two "two-in-one" models. Of the eight, four are full-length-door models and one has a 2-cu. ft. home freezer. All "E" line models have a 5-position cold control adjustable from 26° to -14° F.

One of the "two-in-one" models is composed of two independent model 703's, one with a right-hand door and one with a left-hand door, which are hooked together with a special conversion kit available for \$13.95. The other model is assembled in the same manner, but with two model 704's.

Every 1950 refrigerator has a horizontal evaporator.

Another Philco innovation is a full-width horizontal "Quick Chiller."

"The Quick Chiller," the company explained, "is an extra cold zone, 7 to 15° colder than the main food compartment and gives the housewife the opportunity to use deep cold in many new ways."

Model numbers, announced features, and zone 1 prices of the line are as follows:

Model 702 (7.2 cu. ft.): freezing compartment with 20° temperature average; double plastic utility trays;

meat storage or crisper; 12.1 sq. ft. shelf area. Price, \$189.50.

Model 703 (7.2 cu. ft.): freezer locker holding 28 lbs. of frozen foods; Quick Chiller; glass-covered crisper; 3 ice trays; 14 sq. ft. shelf area. Price \$219.50.

Model 704 (7.2 cu. ft.): freezer locker (28 lbs.); Quick Chiller; adjustable shelves; full-width crisper; 4 ice trays; 14 sq. ft. shelf area. Price, \$239.50. (Seven-foot models are available with left-hand door at slight extra cost.)

Model 904 (9.2 cu. ft.): freezer holding 38 lbs. of frozen foods; Quick Chiller; adjustable shelves; full-width crisper; 4 ice trays; 17.5 sq. ft. shelf area. Price, \$269.50.

Model 906 (9.6 cu. ft.): Built-in home freezer storing 45 lbs. of frozen foods; full-length door; Quick Chiller; adjustable shelves; full-width freshener; 4 ice trays; 15.5 sq. ft. shelf area. Price, \$299.50.

Model 1103 (11.2 cu. ft.): Built-in home freezer (45 lbs.); full-length door; Quick Chiller; adjustable shelves; freshener; snack box; 4 ice trays; 18 sq. ft. shelf area. Price, \$329.50.

Model 1104 (11 cu. ft.): 2-cu. ft. home freezer holding 70 lbs. of frozen foods; full-length door; Quick Chiller; adjustable shelves; freshener; snack box; 4 ice trays; 18.2 sq. ft. shelf area. Price, \$349.50.

Model 1107 (11.5 cu. ft.): Conservador; built-in home freezer (45 lbs.); Quick Chiller; full-length door; adjustable shelves; freshener; snack box; 4 ice trays; 19.3 sq. ft. shelf area. Price, \$389.50.

(The Quick Chiller in Model 906 and in the three 11-cu. ft. models is a clear plastic tray with a meat keeper built into it on the left side. The meat keeper opens on chrome hinges.)

Model 1403 and 1404: "Two-in-one" models described above. Prices, \$452.95 and \$492.95.

The new Philco electric range line was shown for the first time. It included two 21-in. apartment-size ranges, four 40-in. single-oven models, and three 40-in. double-oven styles.

Emphasized was the "Broil-under-Glass" feature, "the revolutionary new Philco broiler, which offers truly smokeless broiling."

According to Philco, the new broiler "is the first ever designed that broils foods in their own cooking vapors and retains the natural juices and flavors. . . . It provides true broiling perfection without the nuisance of smoke, soot, and stain."

In the broiler, a special tempered oven glass shield is attached to the under side of the broiler element. This prevents spattering grease, "the principal cause of smoke, soot, and stain," from striking the hot coils.

Model numbers, highlight features, and prices of the range line are:

Model 202 (apartment size): Three surface units (one 8-in., two 6-in.); thermostatically-controlled oven; appliance outlet. Price, \$129.95.

Model 204 (apartment size): Same surface units as 202 plus 6-qt. cooker; two-element oven with automatic pre-heat thermostat and broiler pan and rack. Price, \$159.95. Deluxe cooking timer and electric clock with

lamp and condiment jars available as an accessory for \$20.

Model 401 (single oven): Four surface units (one 8-in., three 6-in.); thermostatically-controlled oven, storage locker; control panel. It

carries a retail price of \$169.95.

Model 403 (single oven): Three surface units (one 8-in., two 6-in.) plus 6-qt. cooker; two-element "banquet" oven with automatic pre-heat thermostat and broiler pan and rack; two storage compartments (one full length); 60-minute interval timer; lamp. Price, \$199.95.

Model 405 (single oven): Features of 403 plus "broil-under-glass" feature, back-splash overlay with chrome lamp shade, automatic oven timer, electric clock, deluxe broiler pan and rack, and other additions. Has storage compartment and two drawers. Price, \$239.95.

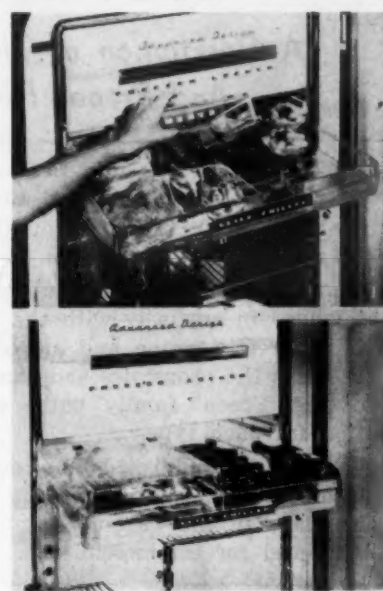
Model 407 (single oven): Four surface units (one 8-in., two 6-in., and "Jiffy Lift" 6-in.); 6-qt. cooker; two-element "banquet" oven with "broil-under-glass" feature; automatic pre-heat thermostat, and deluxe broiler pan and rack; full-width back-splash trimmed with chromium, with 36-in. fluorescent light, automatic oven timer, electric clock, and interval timer; storage compartment and two drawers. Price, \$299.95.

Model 404 (double oven): Four surface units (two 8-in., two 6-in.); two-element "banquet" oven with "broil-under-glass" feature, automatic pre-heat thermostat, deluxe broiler pan and rack; "thrill" oven with two-position element and thermostat control; interval timer; full-width storage locker; lamp. Price, \$249.95.

Model 406 (double oven): Features of 404 plus "broil-under-glass" attachment in "thrill" oven, back-splash overlay with long chrome lamp shade, automatic oven timer, electric clock, and other additions. Has two storage drawers. Price, \$299.95.

Model 408 (double oven): Features of 404 plus full-width back-splash

## Quick Chiller



Note how this new Philco feature can be used for storing meats and custards or puddings (TOP) or beverages (BOTTOM).

trimmed with chromium, with 36-in. fluorescent light, and other additions. Price, \$349.95.

The oven of the apartment-size ranges is rated at more than 4,800-cu. in. capacity. The "banquet" oven is said to have a capacity of more than 5,500 cu. in. and to hold a 40-lb. turkey.

The 12-cu. ft. chest-type freezer added to that product line, Model EH-121, priced at \$349.50, has a new sloping front. This is said to provide more space at the top of the freezer with 70% of the storage space above knee-level.

**DELCO means**  
**DEPENDABILITY**  
**—and more!**

To the highly desirable qualities of dependability, long life and quiet operation, Delco adds two others: flexibility of facilities, to assist the manufacturer to meet changing conditions, and nationwide service, which includes stocks in the field. Below are three of Delco's extra-value motors developed for use in the air conditioning and refrigeration fields. Address inquiries to Delco Products, Dayton, Ohio, or to nearest Sales Office.



Delco Single-Phase, Repulsion Start-Induction Fractional Motor, 1/2 through 3/4 H.P. Also available in these sizes (only) with Condenser start.

Delco Single-Phase Fractional Motor with current-limiting Capacitor, 1/2 through 1/4 H.P. For Blowers and open type Compressors.

Delco Single-Phase, Repulsion Start-Induction Integral Motor, 1 through 5 H.P. Polyphase Integral, 1 through 75 H.P.

**DELCO MOTORS**

DELCO PRODUCTS DIVISION, GENERAL MOTORS CORPORATION, DAYTON, OHIO

SALES OFFICES: Cincinnati • Chicago • Cleveland • Detroit • Hartford • Philadelphia



Range Model 408.



## The 'Freon' Family

### A Description of Their Physical Properties And Proper Fields of Application

This is Part II of a two-part article which is a condensation of the paper "Freon—A Modern Chemical Achievement" presented by R. J. Thompson of Kinetic Chemicals, Inc., late last year to refrigeration groups on the West Coast.

It should be of wide interest and value to all those who are involved in any way with the application of "Freon" refrigerants in the refrigeration and air conditioning fields. Not only does it describe the properties and characteristics of the various members of the "Freon" family, but it explains the proper field of application for each type.

Part II, published in this issue, should prove particularly interesting since it covers the field of application for the various members of the "Freon" family, including the latest types to be produced for commercial use.

By R. J. Thompson, Kinetic Chemicals, Inc.

#### AMOUNT LIQUID REFRIGERANT CIRCULATED

In Table 6 it will be observed that the "Freon" refrigerants have relatively low heat values, but this must not be considered a disadvantage as it simply means that a greater volume of liquid must be circulated per unit of time to produce the desired amount of refrigeration and does not concern the amount of refrigerant in the system.

Actually, it is a decided advantage, and especially so in the smaller or low tonnage systems, to have a refrigerant with low heat values for the reason that the larger quantity of liquid refrigerant to be metered through the liquid regulating device will permit of the use of more accurate and more positive operating and regulating mechanisms of less sensitive and less critical adjustments. Quantities of liquid refrigerant

metered or circulated per minute under standard ton conditions are shown in Table 7.

#### OPERATING PRESSURES

Pressures of saturated vapor at various temperatures are more accurately and completely shown in tables of physical properties and in pressure-temperature relationship charts, Fig. 3 and Fig. 4, but in Table 8 will be shown pressures of saturated vapor under standard ton conditions. Operating pressures will vary with the temperature of condensing medium, amount of condenser surface, whether an air or water-cooled condenser is used, operating back pressure, presence of non-condensable or foul gas in the condenser, circulation of condensing medium through the condenser, condition of the condenser surface, extent of superheating of refrigerant gas, and other factors.

#### HORSEPOWER

The theoretical horsepower per standard ton of refrigeration should be substantially the same for all refrigerants under a given set of conditions with the exception of carbon dioxide. In the case of CO<sub>2</sub> the horsepower is considerably higher because of exceedingly high pressures and also that such a system would be operating so close to the critical temperature of CO<sub>2</sub>, as shown in Table 5.

#### FLAMMABILITY

In Table 9 will be found data on explosive properties of refrigerants as established by Underwriters' Laboratories and found in their reports MH-2256, MH-2375, MH-2630, MH-3134, and MH-3072; also, the Bureau of Mines report R.I. 3042. It will be observed that all of the "Freon" refrigerants being produced are non-flammable and non-explosive.

#### TOXICITY

In Table 10 will be found data on comparative life or health hazards of common refrigerants which was developed by the Underwriters' Laboratories and which appears in their reports mentioned previously.

The "Freon" compounds when used as refrigerants, having characteristic physical and thermodynamic properties, adapt themselves for use in reciprocating, rotary, and centrifugal type compressors which vary in size from fractional refrigeration tonnage up to 2,250 tons capacity; they produce wide ranges of temperatures that vary from normal room temperature to low sub-zero temperatures beyond those found in nature, and for conditions necessary for body comfort air conditioning, processing, and preservation of foodstuffs, and the wide variety of needs for industrial applications. There is a "Freon" refrigerant for every design, size, temperature requirement, purpose, or use in mechanical refrigeration equipment.

#### OTHER USES OF FREONS

Other uses for the "Freon" compounds are as solvents, intermediates, propellants, aerosol ingredient solubilizers, and propellant diluents or pressure reducers.

"Freon-113," CCl<sub>2</sub>F-CClF<sub>2</sub>, has a boiling point of 117.6° F., and is used as a refrigerant in industrial and commercial air conditioning systems; also, in industrial process water and brine cooling to 0° F., employing four or more stage centrifugal-type compressors of 25 tons refrigeration capacity and larger. "Freon-113" has been found satisfactory for use as a solvent or extractant in yarn and fabric finish analysis and cleaning of photographic film and as an intermediate in chemical process.

"Freon-11," CCl<sub>3</sub>F, has a boiling

point of 74.7° F., and has wide usage as a refrigerant in indirect industrial and commercial air conditioning systems; also, in industrial process water and brine cooling to -40° F. employing single or multi-stage centrifugal-type compressors of 100 tons refrigeration capacity and larger.

"Freon-11" is used as a solubilizer for DDT and as a pressure depressor or reducer for propellant "Freon-12" as used in insecticidal aerosol.

"Freon-21," CHCl<sub>2</sub>F, has a boiling point of 48° F., and may be used as a refrigerant in industrial and commercial air conditioning systems; also, in industrial process water and brine cooling to -50° F. employing single or multi-stage centrifugal-type compressors of 100 tons refrigeration capacity and larger.

#### HOUSEHOLD REFRIGERATORS

"Freon-21" has been used in fractional horsepower household refrigerating systems and drinking water coolers employing rotary vane type compressors; also, "Freon-21" has been used in comfort cooling air conditioning systems of the absorption type where dimethyl ether of tetraethylene glycol was used as the absorbent.

"Freon-114," CCl<sub>2</sub>F-CClF<sub>2</sub>, has a boiling point of 38.4° F., and is being used as a refrigerant in fractional horsepower household refrigerating systems and drinking water coolers employing rotary vane type compressors; also, in indirect industrial and commercial air conditioning systems and in industrial process water and brine cooling to -70° F. employing multi-stage centrifugal-type compressors in cascade of 100 tons refrigeration capacity and larger. Large installations using "Freon-114" are at the neoprene plant at Louisville and 10 2,250-hp. units at the Hanford Plant in the state of Washington.

"Freon-12," CCl<sub>2</sub>F<sub>2</sub>, has a boiling point of -21.6° F., and is extensively

used as a refrigerant in both direct and indirect industrial, commercial, and household air conditioning systems; also, in household refrigerators, ice cream cabinets, frozen food cabinets, food locker plants, water coolers, etc., employing reciprocating type compressors ranging in size from fractional to 800 hp. "Freon-12" is also used in household refrigerating systems, ice cream and frozen food cabinets employing rotary vane type compressors.

"Freon-12" is used in industrial process water and brine cooling to -110° F. employing multi-stage centrifugal-type compressors in cascade of 100 tons refrigeration capacity and larger.

One such installation has been made in the world's largest low-temperature refrigeration plant for the National Advisory Committee for Aeronautics test tunnel in Cleveland, and consists of 14 1,500-hp. four-stage centrifugal-type compressors with a refrigerant charge of 58,000 lbs. of "Freon-12."

The main purpose of this refrigerating system is to extract the heat generated in the tunnel by the fan which circulates the air at 500 miles per hour and by the engine on test and, at the same time, maintain a temperature of -80° F. corresponding to the altitude of approximately 50,000 ft.

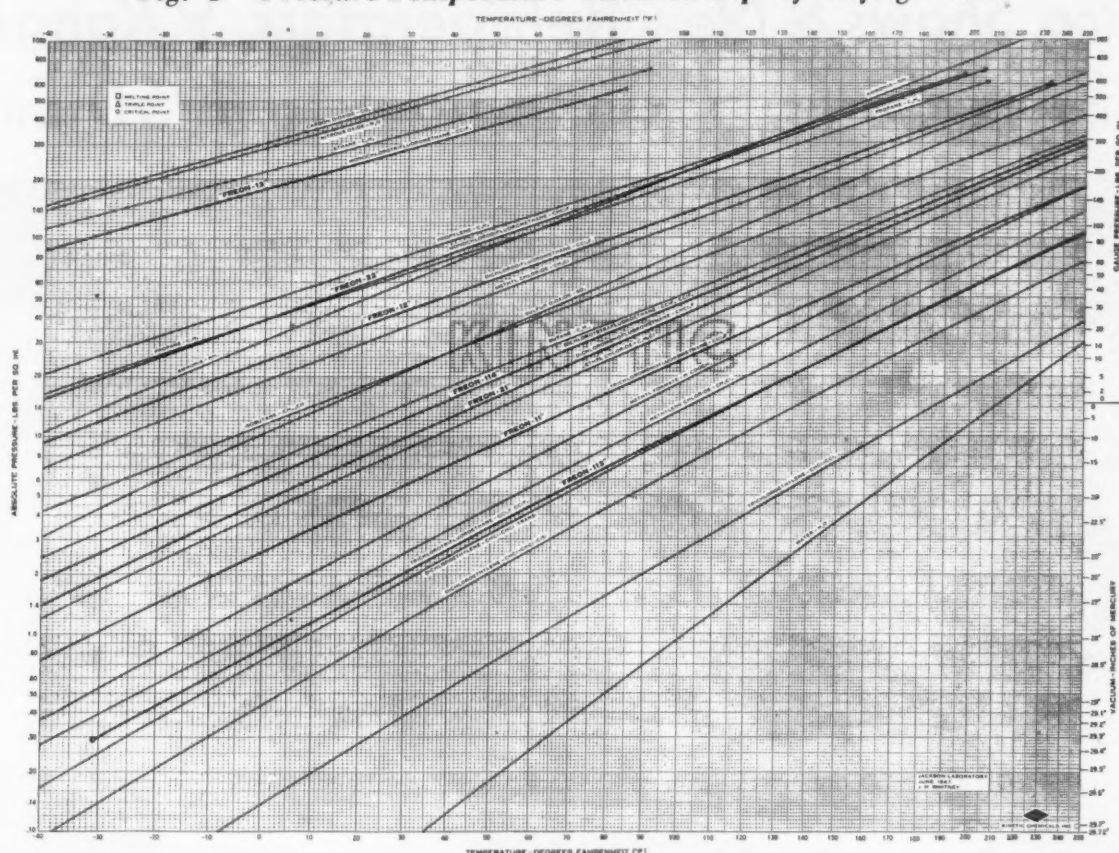
#### HAS WIDE USAGE AS PROPELLENT

"Freon-12" has had wide usage and practically universal acceptance as an aerosol propellant of many different kinds of chemicals, such as insecticides, germicides, fungicides, insect repellents, deodorizers, automobile body wax, perfumes, and probable use in leg colors and hair dressings.

"Freon-22," CHClF<sub>2</sub>, has a boiling

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Fig. 3—Pressure-Temperature Relationship of Refrigerants



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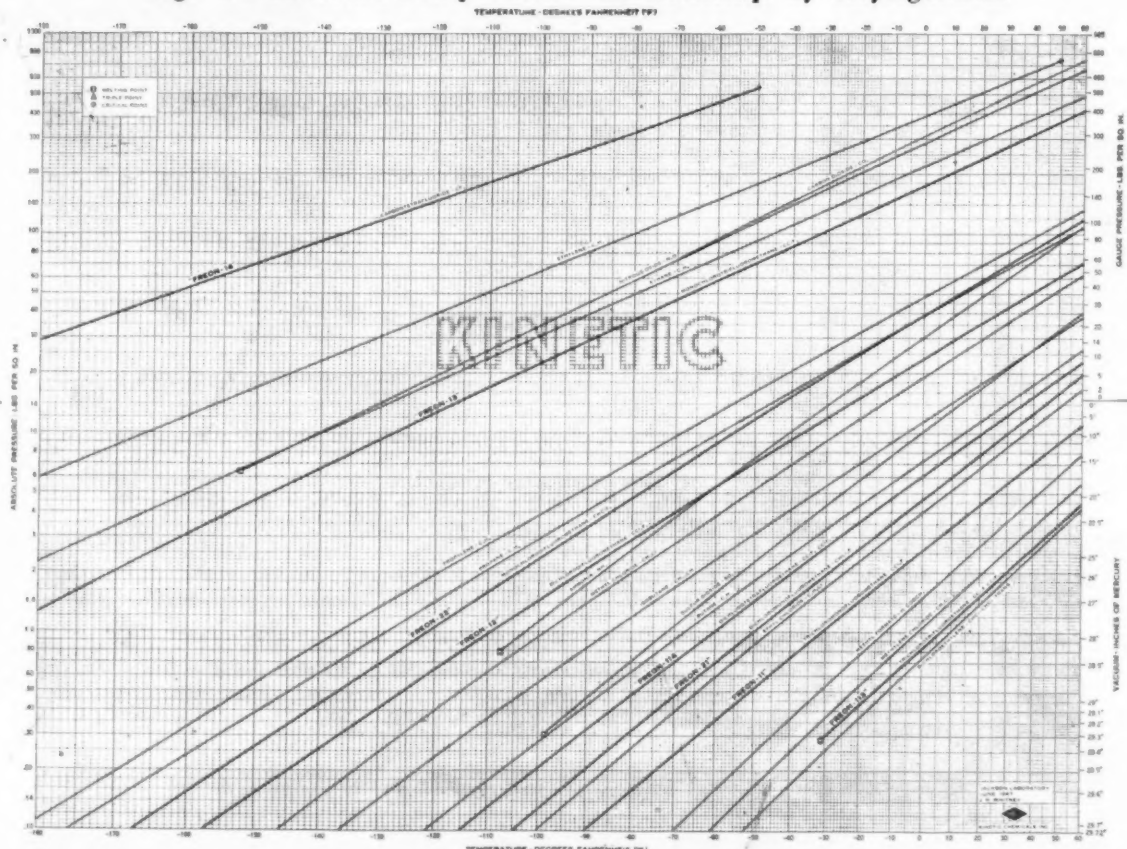
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"Freon-22," CHClF<sub>2</sub>, has a boiling

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Fig. 4—Pressure-Temperature Relationship of Refrigerants



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Expansion Valve

No. 683  
Solenoid Valve

No. 450 FB3  
Pressure Control



Table 6—Theoretical Compressor Displacement  
(Standard Ton)

	Heat Value Vapor 5° F.	Heat Value Liquid 86° F.	Refrigerating Effect	Volume Vapor 5° F.	Compressor Displacement Per Minute
	B.t.u. Per Pound			Cu. Ft./#	Cu. Ft.
Carbon dioxide	102.1	45.4	56.7	.2673	.943
"Freon-22"	105.56	36.28	69.28	1.246	3.596
Ammonia	613.35	138.9	474.45	8.15	3.436
"Freon-12"	78.79	27.72	51.07	1.485	5.815
Methyl chloride	196.92	46.67	150.25	4.471	5.95
Sulphur dioxide	183.49	42.12	141.37	6.421	9.084
"Freon-114"	72.21	29.11	43.1	4.221	19.587
"Freon-21"	119.97	30.56	89.41	9.132	20.427
"Freon-11"	92.88	25.34	67.54	12.27	36.33
Methylene chloride	163.8	29.75	134.05	49.9	74.45
"Freon-113"	79.6	25.93	53.67	27.04	100.764

Cu. ft. disp./minute =  $\frac{200 \text{ B.t.u./min.} \times \text{cu. ft. vapor/\# } 5^\circ \text{ F.}}{\text{B.t.u. refrig. effect/\#}}$

Table 7—Quantity Liquid Refrigerant Circulated or Expanded  
(Standard Ton)

	Pounds Expanded Per Minute	Cu. Ft./# Liquid 86° F.	Cu. In. Liquid Expanded Per Minute	Specific Gravity Liquid 86° F. (Water=1)
Carbon dioxide	3.528	.0267	162.8	.602
"Freon-22"	2.887	.01363	67.97	1.177
Ammonia	.4215	.02691	19.6	.598
"Freon-12"	3.916	.0124	83.9	1.297
Methyl chloride	1.331	.01778	40.89	.898
Sulphur dioxide	1.414	.01184	28.9	1.358
"Freon-114"	4.64	.01112	89.16	1.443
"Freon-21"	2.237	.01183	45.73	1.360
"Freon-11"	2.961	.01094	55.976	1.468
Methylene chloride	1.492	.01198	30.88	1.340
"Freon-113"	3.726	.01031	66.48	1.555

Cu. in. liquid refrigerant/min. =  $\frac{200 \text{ B.t.u./min.}}{\text{B.t.u. refrig. effect/\#}} \times \text{vol. liquid/\# } 86^\circ \text{ F.} \times 1,728$

## The 'Freon' Refrigerants --

(Concluded from preceding page)

point of -41.4° F., and is used as a refrigerant in industrial and commercial low-temperature refrigerating systems to -150° F. and also in window-type and unit package room coolers and air conditioning units.

"Freon-22" will be used in many installations where more efficient operation is desired in providing the necessary lower temperatures for low-temperature locker plants, lower temperature and resulting quicker freezing of foodstuffs, greater volume of product handled by the quick-freezing units, home or farm freezers, and countless numbers of low-temperature industrial applications.

"Freon-22" is being used as an intermediate for the production of polytetrafluoroethylene, and this material with most unusual qualities is offered by du Pont under the trade name of "Teflon." This polymer is unique among organic compounds in chemical inertness, resistance to change at high temperatures, and extremely low dielectric loss factor. "Teflon" is extremely resistant to attack by corrosive reagents and to dissolution by all the solvents that were tried. No substance has been

found that will dissolve or even swell the polymer at room temperature and pressure.

"Freon-13" (CClF<sub>3</sub>) and "Freon-14" (CF<sub>4</sub>), two compounds recently added to the "Freon" family, have boiling points of -114.5° F. and -198.2° F., respectively, and will undoubtedly find usage as refrigerants in extremely low-temperature industrial refrigerating systems approximating liquid-air temperatures, and will be employed in cascaded reciprocating type compressors. The use of these two "Freon" refrigerants will require thorough investigation and research as to the behavior of metals at low temperatures while under stress, lubrication of mechanical compressors, and the possible development of more efficient insulating materials.

## PAST—PRESENT—FUTURE

The art of refrigeration and air conditioning and those two industries have grown and advanced greatly over the past 20 years, coincident with and probably due to the deliberate plan of research, discovery, production, and use of the "Freon" family of refrigerants.

Table 8—Operating Pressures  
(Standard Ton)

	Pressure p.s.i.g. 86° F.	Pressure p.s.i.g. 5° F.	Compression Ratio
Carbon dioxide	1,024.3	319.7	3.11
"Freon-22"	159.8	28.33	4.045
Ammonia	154.5	19.57	4.94
"Freon-12"	93.2	11.81	4.075
Methyl chloride	80.0	6.46	4.48
Sulphur dioxide	51.75	5.87*	5.63
"Freon-114"	21.99	16.14*	5.42
"Freon-21"	16.53	19.25*	5.96
"Freon-11"	3.58	23.95*	6.24
Methylene chloride	9.44*	27.53*	8.57
"Freon-113"	13.93*	27.92*	8.01

\*Inches mercury below one atmosphere.

Table 9—Explosive Properties of Refrigerants

Refrigerant	Explosive Range Concentration in Air % by vol.	Maximum Explosion Pressure, lb./sq. in. gauge	Time of Development of Pressure, Seconds
Ammonia	16 to 25	7.1 to 11.05	50
Methyl formate	4.5 to 20.0	7.02 to 31.2	96
Methyl chloride	8.1 to 17.2	10.6 to 22.6	69
Dichlorethylene	5.6 to 11.4	14.1 to 28.7	76
Ethyl chloride	3.7 to 12.0	6.21 to 20.1	87
Sulphur dioxide		Non-flammable	
Carbon dioxide		Non-flammable	
Methylene chloride		Non-flammable	
"Freon-21"		Non-flammable	
"Freon-113"		Non-flammable	
"Freon-11"		Non-flammable	
"Freon-22"		Non-flammable	
"Freon-114"		Non-flammable	
"Freon-12"		Non-flammable	

Table 10—Toxic Properties of Refrigerants

Underwriters' Laboratory Group No.	ASA B-9 Code Group No.	Refrigerant	Formula	Cu. Ft. Per Lb. of Refrigerant, 68° F. 1 Atmos.	Boiling Point °F.	Duration of Exposure	Kills or Seriously Injures Concentration in Air % by Vol.	Concentration in Air Lb./1,000 Cu. Ft.
1	2	Sulphur dioxide	SO <sub>2</sub>	6.01	14.0	5 min.	.7	1.165
2	2	Ammonia	NH <sub>3</sub>	22.6	-28.0	½ hour	.5 to .6	.221 to .256
3	2	Methyl formate	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	6.41	89.2	1 hour	2.0 to 2.5	3.12 to 3.9
4	2	Methyl chloride	CH <sub>3</sub> Cl	7.62	-10.6	2 hours	2.0 to 2.5	2.62 to 3.28
4	2	Dichlorethylene	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	3.97	118	2 hours	2.0 to 2.5	5.04 to 6.3
a4	2	Ethyl chloride	C <sub>2</sub> H <sub>5</sub> Cl	5.96	54.5	1 hour	4.0	6.72
a4	1	Methylene chloride	CH <sub>2</sub> Cl <sub>2</sub>	4.53	103.6	½ hour	5.1 to 5.3	11.25 to 11.70
b4	1	"Freon-113"	C <sub>2</sub> Cl <sub>3</sub> F <sub>3</sub>	2.1	117.6	½ hour	4.8 to 5.2	23.3 to 25.2
b4	1	"Freon-21"	CHCl <sub>2</sub> F	3.76	48.0	½ hour	10.2	27.1
5	1	Carbon dioxide	CO <sub>2</sub>	8.75	-108.4	½ to 1 hour	29.0 to 30.0	33.2 to 34.3
5	1	"Freon-11"	CCl <sub>3</sub> F	2.8	74.7	2 hours	10	35.7
5	1	"Freon-22"	CHClF <sub>2</sub>	4.37	-41.4	2 hours	9.5 to 11.7	21.2 to 26.1
6	1	"Freon-114"	C <sub>2</sub> Cl <sub>2</sub> F <sub>4</sub>	2.25	38.4	2 hours	*20.1 to 21.5	89.6 to 95.7
6	1	"Freon-12"	CCl <sub>2</sub> F <sub>2</sub>	3.18	-21.7	2 hours	*28.5 to 30.4	89.6 to 95.7

\*Oxygen deficiency.

During 20 years of manufacturing experience, accumulated technical "know-how," constantly improved chemical and physical control, and continuing research, such compounds have not only been vastly improved but much needed data for their proper use has been developed and made available to the industry.

## CONTINUING RESEARCH

Continuing research, further refinements in the complicated processes used to manufacture these "Freon" fluorinated hydrocarbon refrigerants, and the development of additional needed data will result in even better, purer, more economical refrigerants to help equipment manufacturers, distributors, service organizations, air conditioning and refrigeration engineers to design, build, service, and sell better refrigeration equip-

ment for the present and still largely undeveloped markets and for the countless applications of refrigerants to the manufacturing of thousands of finished articles and the myriad unknown uses that will come into existence.

Cooperative Locker Plant  
Opens In Waldoboro, Me.

WALDOBORO, Me.—A 500-locker cooperative plant has been opened here by Waldoboro Lockers, Inc. General manager is John Foster, while George Sterns is plant manager.

The plant is equipped to process, age, smoke, cure, and freeze meats. Refrigeration was done by Howard Bidwell of East Hartford, Conn.

Kuhre Is Merchandise Mgr.  
At Strevell-Paterson Co.

SALT LAKE CITY—U. J. Kuhre has been appointed merchandising manager of Strevell-Paterson Hardware Co., according to G. A. Rogers, president and general manager of the hardware and appliance firm.

Kuhre, who began his service with the company as a warehouse employee, has been a salesman of appliances and hardware in the Pocatello-Twin Falls area for the last 13 years.

In his new position, Kuhre will be in charge of all sales in the company's various departments. These include the motor mercantile division, the company's Boise branch, and 34 salesmen now covering the intermountain territory.



York Refrigeration Unit with an Allen-Bradley Bulletin 709 Solenoid Starter.



York  
refrigeration  
air-conditioning



A-B  
Quality

## REFRIGERATION UNITS

equipped with

## Trouble Free Motor Controls

**WHY ARE ALLEN-BRADLEY STARTERS SO POPULAR** for air-conditioning service? . . . Because they are trouble free. Only one moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

**NO CONTACT MAINTENANCE.** Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

**DEPENDABLE OVERLOAD RELAYS.** Allen-Bradley thermal relays are accurate and dependable even after long service.

The A-B trademark stands for millions of trouble free operations. Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wisconsin.

**ALLEN-BRADLEY AIR-CONDITIONING AND REFRIGERATION CONTROLS**

PRESSURE AND TEMPERATURE CONTROLS

MANUAL STARTER

AUTOMATIC STARTER

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High-pressure cutout and motor starter in same enclosure. Temperature controls can be mounted with motor starter in same way.

# ALLEN-BRADLEY

## SOLENOID MOTOR CONTROL

QUALITY



## EI Sales Conclave Set For Chicago April 4-6

NEW YORK CITY—The 16th annual sales conference of Edison Electric Institute will be held on April 4, 5, and 6, at the Edgewater Beach hotel, Chicago, Harry Restofski, chairman of the commercial division general committee, has announced.

The current problems and techniques involved in selling electric power and appliances in the four major markets—residential, farm, industrial, and commercial—will be discussed on April 4.

On the following days, the conference will meet in general sessions with nationally prominent persons from the electrical and allied industries addressing the group.

A feature of the final day's session will be the presentation of the prizes for the four award contests sponsored by Edison Electric Institute. The prizes are awarded annually to the electric utility companies who have done outstanding promotional work during the previous year in the fields of electrical appliances, farm electrification, planned lighting, etc.

A half-day home service conference will be held on Monday, April 3 preceding the regular business sessions of the sales conference. Held for the first time in 1949, the home service meeting created such widespread interest that it was again scheduled for 1950.

## Hopkinsville Dealership Moves

HOPKINSVILLE, Ky.—Featuring a complete line of Gibson refrigerators, the Maytag Sales & Service has occupied new quarters here.

## 12 ASHVE Meeting Papers Jan. 23-26 Will Include 2 on Subject of Heat Pump

(Concluded from page 1)

but the meeting will not formally get under way until the first session is called to order at 9:30 a.m. Monday at the Baker hotel.

Technical sessions will also be held Tuesday morning, Wednesday morning and afternoon, and Thursday morning, these four meetings being at the Adolphus hotel.

Among the papers to be given are: "Thermodynamic Criteria for Heat Pump Performance," by John F. Sandfort, associate professor of mechanical engineering, Iowa State college.

"Evaluating Heat Pump Performance," by F. G. Ellenberger, A. B. Hubbard, F. Burggraf, and J. J. Martin, Jr., section heads, air conditioning department, General Electric Co.

"Removal of Internal Radiation by Cooling Panels," by Merl Baker, assistant professor of mechanical engineering, University of Kentucky.

Society business to come before the group at the Dallas meeting includes voting on a new set of by-laws. Several changes would be incorporated by the adoption of these, such as:

### NO MORE 'ASSOCIATES'

1. No more "associate" members would be admitted.
2. An "affiliate" grade of member with no voting privileges would be established.
3. Dues of "junior" members would be increased from \$10 to \$15 a year.

As usual, several entertainment features have been planned for this meeting. At 7 p.m. Monday, Jan. 23, there'll be a "chuck wagon dinner" with entertainment and dancing, a luncheon meeting at 12:30 Tuesday, the annual banquet Wednesday evening to be addressed by Dr. Humphrey Lee, president of Southern Methodist university, plus numerous special events for the ladies.

Annual election of officers will also be held at the Dallas meeting, the slate of nominees including Lester T. Avery for president; L. E. Seeley, first vice president; Ernest Szekely, second vice president; Reg F. Taylor, treasurer; John E. Haines, John W. James, E. R. Queer, and G. B. Supple, for three-year terms on the Council; Carl F. Boester, R. C. Cross, R. S. Dill, Arthur J. Hess, and Harold A. Lockhart, for three-year terms on the Committee on Research, and P. B. Gordon, for a one-year term on the same committee.

### NORTH TEXAS CHAPTER HOST

The North Texas Chapter of the society will be host for the meeting. C. Rollins Gardner is general chairman of the committee on arrangements, while G. A. Linskie, chapter president, is acting as vice chairman. Honorary chairmen are F. E. Giesecke and Reg F. Taylor. Other chairmen are: E. T. Gessell, finance; T. H. Anspacher, ladies; M. L. Brown, banquet; R. E. Allison, entertainment; Oslin Nation, exposition; J. P. Ashcraft, publicity; W. R. Bar-

beck, reception; P. N. Vinther, sessions; Herman Blum, Jr., special events, and J. A. Ray, transportation. Besides the three technical papers previously mentioned, the following will be presented:

"Night Air Cooling," by F. E. Giesecke, past president of the society and former director of the engineering experiment station, Texas A. & M.

"Physiologic Examination of the Effective Temperature Index," by Robert W. Keeton, M.D., head; Nathaniel Glickman, assistant professor of medicine and research physiologist; Tohru Inouye, research assistant, all of the Department of Medicine, University of Illinois, and Maurice K. Fahnestock, research professor of mechanical engineering and engineering director of the physical environment unit, Department of Mechanical Engineering, University of Illinois.

"Condensation on Prefabricated Walls," by E. R. Queer, professor of engineering research, and E. R. McLaughlin, associate professor of engineering, Engineering Experiment Station, Pennsylvania State college.

"Solar Heating of Houses by Vertical South Wall Storage Panels," by A. G. H. Dietz, associate professor of structural engineering, department of building engineering construction, and Edward Czapek, research associate, department of architecture, Massachusetts Institute of Technology.

"Baseboard Radiation Performance in Occupied Dwellings," by G. S. MacLeod, test engineer, and C. E. Eves, former test engineer, Sears Roebuck and Co.

"Effect of Panel Location on Skin and Clothing Surface Temperature," by L. P. Herrington, director of research, and R. J. Lorenzi, research engineer, John B. Pierce Foundation, Laboratory of Hygiene.

"Resistance Gradients through Viscous Coated Air Filters," by Frank B. Rowley, director, engineering experiment station, and Richard C. Jordan, professor of mechanical engineering, University of Minnesota.

"Fitting Losses for Extended Plenum Forced-Air Systems," H. H. Korst, associate professor of mechanical engineering, N. A. Buckley, special research assistant in mechanical engineering, S. Konzo, professor of mechanical engineering, and R. W. Roose, special research associate in mechanical engineering, University of Illinois.

"Vaneaxial Fan Fundamentals," by Raymond Mancha, vice president, Joy Mfg. Co.

## Sponsors



Willis Silkworth, president of Silkworth Distributing Co., discusses contest with Ed Jacobs.

## 'Dot Counting' Contest Draws 7,000 Entrants In Flint Dealers' Area

FLINT, Mich.—A "count the dot" contest was run in Flint appliance stores during November and December and was sponsored by the Silkworth Distributing Co. here.

The basis of the contest was to count the actual number of dots filling in the outline of a Gibson refrigerator. Contest drawings appeared in the local paper twice during each contest and drew over 7,000 entries. Many contestants went to great lengths to submit their dot count in original form such as posters, folders, and sales books.

First prize in the contest held by the Fitzgerald Appliance Co. was a deluxe model Gibson refrigerator, won by Mrs. Robert Johnston.

Other gifts included a vacuum cleaner, radio, electric iron, and many merchandise certificates.

Judges of the contest were the honorable mayor George Willis, city manager Harold M. Kinder, and city attorney John T. Damms.

Commenting on the success of the Flint contests, Willis Silkworth, president of the Silkworth Distributing Co., said that the "count the dot" contest would be expanded and continued throughout northern Michigan.

## Nema's 'Go All Electric' Program Continues To Alert Utilities to Inroads of 'LP' Gas

ATLANTIC CITY, N. J.—Nema's "Go All-Electric" program is "going strong" with 1950 plans calling for a continuation of effective efforts to alert power suppliers to the inroads being made in their revenue by LP gas competition and the development of sales and informational aids to help them meet such competition.

The above statement was made by J. Rushton, chairman of the subcommittee on Competitive Fuels of the National Electrical Manufacturers Association, as his group convened in connection with the recent annual Nema meeting here. Rushton is manager of the major dealer division of Frigidaire.

In highlighting the need for continuing action by the electrical industry to combat LP competition, Rushton said that "one third of the farm and rural small-town market already has been lost to bottled gas," and that strong counter measures are necessary to prevent still further gains being made in succeeding years. Best figures now available show that bottled gas appliances are in use in 5,500,000 homes in the lucrative rural territory and that power suppliers, between 1943 and 1949, lost an estimated \$104,625,000 in revenue to the bottled gas industry.

To help combat this situation, Rushton and his group are developing a comprehensive "Go All-Electric" work book for the use of power suppliers. The book will present suggestions for establishing an effective organization to meet LP gas competition, detail methods for conducting an objective electric-LP gas survey, and outline effective plans of action for encouraging farm and rural small-town families to "Go All-Electric—the Modern Way."

Plans also call for the development of consumer material to supplement the sales and informational aids now

being distributed. Material will include the production of a new consumer folder, which will present figures to show that electricity is "best by test" as compared with LP gas for performing identical household and farm tasks, such as cooking, water heating, and refrigerating. The new piece will supplement the present highly effective Rate Comparison folder—a pocket-sized salesman's guide containing all necessary competitive fuels information.

### SLIDE FILMS FOR CONSUMER

Another step forward in bringing the all-electric story to the consumer will be a revision of the present silent slide training film and accompanying narration to make the strip applicable for presentation at "customer" meetings. The current film, like the Rate Comparison folder, is now directed to sales personnel.

Both consumer and sales training films will be promoted next year, along with the accompanying material. In addition, Rushton said that Nema's Farm Electrification Bureau—the staff operation of his subcommittee—will continue the distribution of such current sales, promotional, and informational material as the Electrical Appliance Sales Handbook, Singing Wires (a sound motion picture), 24-sheet "Go All-Electric" posters, electrotypes of the "Go All-Electric" seal, and advertising mats.

The handbook contains answers to problems relating to retail electrical appliance selling. It establishes electricity as the one service contributing most to modern living through efficient, economical applications in the home and on the farm. Also it demonstrates electricity's superiority over flame fuels and presents the complete selling process in simple and easy-to-apply terms.

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AIR CONDITIONING & REFRIGERATION NEWS  
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1. Largest Paid Circulation—a vital fact for all advertisers.
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3. Consistent leader in advertising volume... three to one over any other industry publication. Carries more advertising lineage than combined total of all other publications in the field.
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5. Largest and most qualified editorial staff of any publication in the field to edit the industry's most authoritative, relied upon publication.
6. Keyed to the important buyers in every branch of manufacturing, distribution, sales, service, contracting, and installation through complete editorial service—paid readership.
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Complete facts on AIR CONDITIONING & REFRIGERATION NEWS are contained in two new booklets, "Inside Dope No. 10" and "Market and Media File." Here you'll find all the information that will show why the NEWS is today's best buy in this "blue chip" industry. These booklets are yours for the asking.



# What Was Shown at Winter Home Furnishings Markets In Chicago

## Hotpoint Bows 6 Pushbutton Ranges, Dishwasher-Sink 6 Washers, 3 Ironers



First medium-priced pushbutton model.

CHICAGO—Highlights of the new Hotpoint, Inc. line of 1950-model appliances on display here at the mid-winter home furnishings and houseware markets were a pushbutton range in the medium price class; two deluxe pushbutton models with a new utility unit that is claimed to cook 20% faster than any other unit of its size; a "ready-plumbed" dishwasher-sink that is said to reduce installation cost 60%; and a low-priced, fully automatic rotary ironer.

There are six new range models, with pushbutton control made available in the medium price class for the first time. The deluxe pushbutton ranges are made in single or double-oven models with lighted pushbuttons that register different colors for selected heat settings. The medium-priced range, priced at under \$300, has controls located in a panel on the right side of the backsplash with colored lights beside the pushbuttons. These three models allow the housewife to cook by setting a timer and touching a button.

The new "instant heat" utility surface unit will boil a pint of 60° water in four minutes, and was designed for faster cooking of small quantities of food. Small utensils fit well on this six-inch unit.

The dishwasher sink has a motor and pump that empty the water into the sink outlet. This eliminates special plumbing connections when the machine is installed in kitchens. The dishwasher sink has a new faucet with a single lever for controlling water temperature and volume. The lever is moved up and down for volume, and horizontally for temperature. Once the housewife has selected the desired temperature, she can turn the water on or off by raising or lowering the lever.

The new rotary ironer, priced at \$99.95, is fully automatic, thermostatically controlled, with knee action and a manual shoe release for emergencies.

Principal change in the two deluxe pushbutton ranges is a new 1,600-watt "instant heat" Calrod unit designed for highest speed cooking. This unit is standard on the RD-7 double oven range and the single



L-4 Rotary Ironer.

oven model RD-6. Both have pushbutton controls that light up in different colors to show settings of four surface units and ovens. The RD-6 model has a raisable deep-well cooker Calrod unit to increase flexibility by conversion to a fourth surface unit.

Hotpoint's 1950 range line is rounded out by three conventional models with switch controls for surface units and two apartment house models, one with four surface Calrod units, the other with three. The new pushbutton range model RC14, has a compact panel on the right side of the backsplash where the pushbuttons are in banks of four. Each button has a colored signal light beside it on the panel. The backsplash lights the cooking surface from a fluorescent lamp and it is designed to tilt forward for easier servicing.

Other innovations on this new model include a chromium boiling rack, three large storage drawers, in addition to a clock-controlled automatic oven and two electric outlets. The new 1950 8-cu. ft. refrigerator in the medium price class, and two combination refrigerator-freezers, were displayed at the market by Hotpoint.

The EBS has stainless steel shelves, a butter conditioner, vegetable and fruit storage, and a porcelain meat pan. The stainless steel evaporator is enclosed at the front and back to assure low temperatures for 24 lbs. of frozen foods.

The butter conditioning compartment on the inside surface of the door has a separate temperature control for keeping a pound of butter at spreading consistency.

The EF8 and EF10 are 8 and 10-cu. ft. combination refrigerator-freezers. They have individual storage and freezer compartments with separate doors. Aluminum shelves, a plastic food basket and three ice trays are other features. Toe strips on the 1950 model refrigerators are white.

Growing demand in rural areas for freezers of greater capacity has led to the introduction of the EK11, also on display at the market. It has three food baskets on supporting rails, a warning light, and a locking latch. A separate compartment provides storage space for packaging and wrapping materials used in freezing foods.

## Introduced by G-E

CHICAGO—Nine new home laundry products are being introduced by the General Electric Co., C. E. Anderson, manager of the home laundry division, announced recently. They are:

1. An automatic washer which permits the homemaker to reduce water consumption when washing a small load of clothes.

2. Five wringer washers priced from \$10 to \$20 below comparable models in the 1949 line.

3. Three rotary ironers which round out and "give General Electric the most complete line of ironers on the market."

According to Anderson, the new automatic washer, a rectangular, top-loading machine which does not have to be bolted down, has a normal capacity of 9 lbs. of dry clothes.

When no more than 5 lbs. of clothes are to be washed, however, the water required can be reduced 40% by operating the water-control cylinder in the top of the activator.

Additional new features of the washer, identified as the AW6-A8, are improved rinsing and drying action. Loose soap and curd are speedily removed during the rinse cycle by a new overflow rinse.

Anderson said the new machine would carry a recommended national retail price of \$369.95.

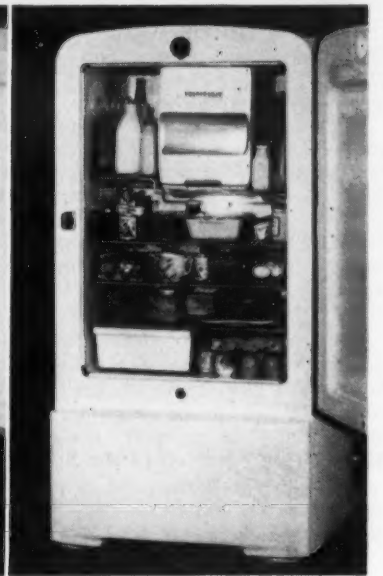
Top model in the wringer washer line is the deluxe AW-452, priced at \$162.95—ten dollars below the price on the comparable 1949 model.

The other new wringer washers are the AW-352, which carries a price of \$139.95, and the AW-152, priced at \$124.95. Comparable 1949 models were priced at \$159.95 and \$139.95 respectively. Both machines have improved wringers and have been generally restyled. They are

## Deepfreeze Introduces Refrigerator Line



W-9



F-9

available without pumps for \$10 less.

Two other wringer washers priced at \$99.95 and \$109.95 were announced in November.

Anderson was particularly enthusiastic about the prospect for ironer sales this year. He estimated that 300,000 units would be sold by the industry. This represents an increase of about 15% over 1949.

Two of the new rotary ironers are automatic, thermostatically controlled cabinet models with 26-in. ironing rolls. The AR-70, which operates at two speeds and has a pressing position, carries a recommended national retail price of \$169.95. The AR-60, a one-speed machine, is priced at \$139.95.

The new portable is the AR-30. It is a lightweight, manually operated machine with a 22-in. roll and a press control.

## Range and Water Heater Lines Given First Showing

CHICAGO—First general showing of the Deepfreeze lines of refrigerators, ranges, and water heaters, which were announced last fall, came about during the winter homefurnishings market.

Five refrigerators, four electric ranges, and seven water heaters comprise the new lines which were shown in addition to the six Deepfreeze home freezer models.

Refrigerator models are of two types, two having across-the-top freezer compartments, and the other three with the conventional style.

From the promotional literature and display at the market, Deepfreeze will apparently push its model W-9, an across-the-top freezer model with 8.5 cu. ft. of storage selling for \$319.95. Features of the refrigerator are, in addition to the across-the-top freezer, an exclusive dual vegetable crisper with the "Handy-Bin" (a special hinged lid compartment in front for small fruits and vegetables), dry storage bin, controlled butter box, and swing shelf. The other model of this type is the W-11, with 10.5 cu. ft. of storage space, selling for \$349.95.

Other models with the conventional-type evaporators are the F-11 with 11.3-cu. ft. capacity at \$279.95; the F-9 with 9.1-cu. ft. capacity at \$249.95; and the F-7 with 6.9-cu. ft. capacity at \$199.95.

New addition to the home freezer line is the deluxe model C-16, with two lids and 16.1-cu. ft. capacity, retailing at \$499.50.

Range line is topped by the deluxe model RD-1, which has automatic time control and electric clock, porcelain enameled broiler pan and aluminum alloy smokeless tray, interval timer, automatic pre-heat oven temperature control, fluorescent range lamp, appliance outlet, broil-bake signal lights, automatic oven light, inset pan, trivet and French-fry basket, multi-heat switches, and monotube supercontact units.

Other standard-size ranges are priced at \$249.95 and \$189.95, and an apartment-size model is priced at \$159.95.

The seven Deepfreeze water heaters include some models in both the conventional round type and also table-top models, and range in price from \$114.95 for a 31-gal. model to \$189.95 for a 81-gal. model.

## Bendix Sells Dialomatic Washer at \$169.95

The "Dialomatic" Bendix Economat washer, introduced at the market to sell for \$169.95, is being promoted as the washer "where once you put clothes in, you never touch them again until they've been washed, rinsed, and damp-dried."

However, the washer must be hand-filled for the washing and rinsing actions. For this reason it is believed that its biggest market will be in rural and apartment house applications. It is equipped with casters so that it may be moved.

The washer utilizes the squeeze-type action introduced with the Economat, and has capacity for 8 lbs. of clothes at a washing.

## 4-In-1 Unit Puts Refrigerator, Range In Bedroom



This combination refrigerator and range, plus the dinette set, can make an ordinary bedroom do service as four different type rooms. It was introduced at the Mart by Ideal Steel Products, Inc. of Chicago.

A new two-piece household unit was introduced by Ideal Steel Products, Inc., 666 Lake Shore Dr., Chicago, which is said to "instantly give any bedroom four-room efficiency."

Called the Higgins 4-in-1 utility unit, this set consists of a combination refrigerator and electrical stove, and a folding dinette. The refrigerator-stove is 43 in. high, 19½ in. wide, and 18½ in. deep. The top lid

swings up for protecting the walls, and exposes two electric hotplates.

The lower section is a refrigerator with ice cubes, tray, and plenty of space for keeping foods of all kinds. One of the features of the refrigerator is the lock and key for the refrigerator door.

A built-in two-way electrical outlet permits making toast, warming baby's food, etc.

Retail price is under \$300.

## 'Select-a-Range' Allows Variety of Arrangement



"Select-a-Range," a new concept in electric range design and assembly, was introduced by Landers, Frary & Clark at the markets and caused a considerable flurry of discussion.

In the "Select-a-Range" setup there are three basic units, independently made, which can be assembled in any manner desired. The three basic units are:

Oven Unit. Self-contained and insulated, it can be installed separately on storage drawers or in a wall.

Platform Surface Cooking Unit.

Self-contained, it can be installed separately on storage drawers, placed on or recessed in a counter top.

Storage Drawer Unit. Can be grouped in any arrangement to raise oven and surface unit to desired work level.

Booklets showing several different types of arrangements emphasized placement of the broiler at eye level (see illustration).

Oven has automatic timer, automatic pre-heat and temperature control, minit minder, and smokeless broiler grid. Platform surface units are Monotube type, with 7-heat control.

No venting or elaborate arrangements are necessary in installation, it is claimed. Single or double ovens may be placed at the best level for the tall or short housewife.

A complete "Select-a-Range" retails at \$299.95. This includes one oven, one surface unit, six drawers, two toe base, one back splash, and two filler strips.

Individual part prices are: oven, \$129.95; surface unit, \$79.95; drawers, \$13.50; drawer with toe base, \$16.95; flat top plate, \$9.95; back splash, \$2.95; light, \$9.95; and three drawers and toe base, \$43.50.

## Kelvinator Offers Automatic Cooking



Walter Casada (left) and Homer Darby of Missouri Farms Association watch as H. A. Willis, Kelvinator range sales manager, demonstrates automatic cooking features on Kelvinator's 1950 deluxe electric range. The range was part of Nash-Kelvinator Corp.'s display at the American Furniture Mart.



## Enlarged Promotion Program To Back Addition of 2 Freezers to Amana Line

(Concluded from page 1)

The company claims that its 12-cu. ft. chest-type freezer (model 120) is the first in this style without a compressor compartment.

George C. Foerstner, vice president and general manager, explained that the specially-designed compressor is located in a recessed area on the outside of the freezer at the rear bottom. Because of this arrangement, model 120 occupies the same floor space as model 110 despite the fact that it is 2 cu. ft. larger, he said.

The compressor operates in conjunction with a static condenser attached to the back of the freezer and has a spring suspension-type mounting. The complete sealed system can be removed in the field.

The same arrangement is incorporated in the newly-improved model 60A (6 cu. ft.).

Priced at \$369.50, model 120 is 36 in. high. It has gray rubber breaker strip and lid gaskets, three adjustable wire dividers and four sliding wire baskets as standard equipment, a counterbalanced lid, and a temperature indicator on the front of the cabinet. Its capacity is given as 420 lbs. of frozen foods.

The 12-cu. ft. upright freezer (model 12) is the same as the improved model 18 except for capacity. Both have deluxe hardware, curved fronts, one-piece crowned tops, tilt drawers for the storage of wrapping materials, all-steel doors, and heavy-gauge aluminum shelves with stainless steel front mouldings.

### MODEL 12: 3 SHELF PLATES

Model 12 is equipped with four refrigerated surfaces—three shelf plates totaling 9½ sq. ft. and a plate in the compartment ceiling. The three shelf freezer plates in model 18 total 13½ sq. ft.

Models 12 and 18 carry price tags of \$424.50 and \$524.50, respectively.

Improvements in model 60A, in addition to the new compressor arrangement, include table-top height (36 in.), counterbalanced hinges, gray rubber breaker strip and lid gasket, and two baskets and an adjustable divider as standard equipment.

Despite the lower height of this

model, its capacity remains the same and there is no increase in floor area, according to Amana. It is priced at \$219.50.

It was announced during the meeting that model 110, which retails for \$339.50, will be continued in the line. Also continuing are three stainless steel models—25S and 30RS, both upright freezers, and 200S, a walk-in refrigerator-freezer with a total capacity of 134 cu. ft.

### DISTRIBUTOR TEST REACTION

No changes have been made in Amana's freezer-refrigerator model FR9. However, to test distributor reaction, the company showed a similar model without some of the FR9's deluxe features. Missing are the stainless steel trim, overlay, the light in the top compartment, and the ice tray.

The FR9 will be available with left-hand doors at a small extra cost, it was made known by Foerstner, who presented the new freezers and reviewed the rest of the Amana line.

Foerstner opened the meeting by explaining the new private corporate setup of the company, which was formerly the Refrigeration Div. of Amana Society. He said there had been no change in the organization, except in the legal sense.

He noted that Amana's 120-day price protection plan, its food protection plan, and its service program would be continued as usual. The service program, he pointed out, was recently expanded with the appointment of Charles Nichols as a special representative. He added that the company now has a closer quality-control program with the appointment of Ed Ham as director of quality control.

In discussing the 1950 line, Foerstner said that sweating around the doors of models 12 and 18 in high-humidity areas has been eliminated by an arrangement which keeps the area around the doors at room temperature. He concluded by announcing winners of Amana's '49-er contest.

After a luncheon, E. L. Hinchliff, director of sales, showed a new merchandising brochure on the FR9 and J. J. Spelman, special representative for Amana, made a sales presentation

on this model.

Next, M. E. Morris, advertising manager, presented the company's 1950 advertising and sales promotion program. After announcing that the "50-50" cooperative newspaper advertising program would be continued, Morris outlined new use-the-user plans under which dealers would award premiums to freezer owners who supply them with the names of five or more friends.

A wide variety of items would be offered under one plan. The other offers a 34-piece set of glassware as a premium, with additional premiums for prospects who come into the store for a demonstration.

### PROMOTION DOUBLES DEALERS

Maury Bergman, of Maury, Lee & Marshall, Amana's advertising agency, then presented the company's national advertising program for 1950. He reported that the 1949 direct-mail campaign had more than doubled the number of Amana dealers.

This year, he said, a minimum of 27 insertions will be made in these national magazines: *McCall's*, *Good Housekeeping*, *Time*, *Fortune*, *Farm Journal*, *Better Homes and Gardens*, *American Home*, *Field and Stream*, *Progressive Farmer*, *Successful Farming*, *Sports Afield*, and *Sunset*.

Bergman also described new sales aids for dealers. One of these is a food savings chart and a "when to buy" calendar.

The "completely authenticated" chart was compiled from government figures. It shows how much can be saved by various size families with freezers when they buy large quantities of food in the "low-cost" months of the year. The chart is intended to impress prospects with the fact that "Amana freezers pay for themselves."

### 'CALENDAR BUYING' SAVES

The calendar tells the freezer owner when to buy foods for freezing to effect maximum savings. Bergman said the company advocates that consumers buy a nine-month quantity during the three "low-cost" months.

He called attention to a graphic display which demonstrates the various types of appliances that can be purchased with the savings effected through ownership of a freezer, as indicated by the chart.

Continuing, Bergman went through a new dealer "flip" easel which was prepared to enable dealers to do a top selling job on freezers. It can be used effectively by a salesman who has had no experience in selling freezers, he stressed.

Entitled "An Amana Freezer Is a Family Affair," the easel starts off with members of the "MacGregor" family telling what a freezer has meant to them. The family's neighbors, doctor, and market man add their testimonials to the story.

Next are listed the features to look for in a freezer. These are compared with features of the Amana freezer.

### CHART SHOWS SAVINGS

The prospect is then told to use the listed government figures on how much storage space is needed per person to find out what size freezer he should buy (3 cu. ft., or 6 cu. ft. for each member of farm families or families who produce their own foodstuffs).

With this information, the dealer flips to the page which shows how much money the prospect can save if he buys the particular size freezer recommended for his family. On the back of this page (and all like it) are specifications on the suggested model and what time payments would be.

The "when-to-buy" calendar is included in the easel.

Morris completed this part of the meeting by announcing that new literature has been prepared, that the savings chart is available for dealer display, and that a dealer sales promotion kit containing the new material is ready for distribution.

The meeting moved on with Hinchliff discussing the commercial market for home freezers. He pointed out that freezers are adaptable to this market, which "offers terrific opportunities" to every distributor.

Commenting on the rapid growth of the frozen food industry, he quoted industry men as predicting that this business is destined to take 50% of the total food dollar by the end of 1952. This situation, he said, creates a problem of refrigeration all the way down the line from garden to consumer, and thus the opportunity for the sale of low-temperature equipment.

"The growth of frozen foods,"

Hinchliff declared, "has eclipsed the ability of the refrigeration industry to take care of their products."

As an example of this growth, he noted that a leading frozen food producer has ordered the doubling in 1950 of the number of frozen food cabinets in stores.

"The market is here and the demand is becoming more insistent every day," he emphasized.

### WHERE THE MARKET LIES

Hinchliff then presented a number of charts to show what kind of a market exists. The charts enumerated "what the Amana freezer means" to the country's 264,960 food stores; 192,412 hotels, restaurants, and institutions; 136,594 taverns (60% of which serve food); and 133,730 meat and fish markets.

These other opportunities were listed: 241,853 filling stations, 5,750 tourist camps and courts, 2,730 ice cream manufacturers, 6,280 hospitals, and 8,051 soft drink places.

To cash in on these opportunities, he said, distributors should institute a 10-point program as follows:

1. Hire specialty salesmen to sell direct to commercial establishments.
2. Train them intensively.
3. Obtain the cooperation of frozen food distributors and packers.
4. Enlist the support of meat cutters' and bartenders' unions.
5. Hold meetings of each prospect class.
6. Advertise in local trade papers.
7. Conduct direct-mail campaigns.
8. Canvass thoroughly following each mailing.
9. Follow up all leads promptly and energetically.
10. Use coin meter plan or liberal

deferred payments.

Following this talk, Francis Duncan, head of Amana's five-member home economics department, reviewed the demonstration program.

Hinchliff then discussed the small-town market. He urged the distributors not to pass up the crossroads dealers, pointing out that "you would be amazed at the volume some of these dealers do."

Next, he outlined a 12-point program which called for, among other things, better dealer coverage and better-trained salesmen. A discussion panel on ways to further exploit the small-town and rural areas followed. Distributors taking part in this panel emphasized the importance of the dealer having a freezer in his home to generate enthusiasm for it.

The meeting wound up with a "mixer" and a dinner.

### OlumPlansNewWarehouse

BINGHAMTON, N. Y. — Jacob Olum, proprietor of furniture and appliance stores in Binghamton, and Johnson City, has purchased property here for erection of new warehouse facilities.

He paid \$60,000 for the property. By centralizing his storage facilities, Olum expects to effect considerable economies.

### Jaeger Moves To New Quarters

TRENTON, N. J. — Jaeger's Sales & Supplies, refrigeration products dealer here, has announced the opening of its new quarters at Dover and Robbins Ave. Telephone numbers are 4-1467 and 4-1476.

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

### POSITIONS WANTED

SERVICE AND installation man. Wants job with firm that can offer year around work. Has 12 years experience in commercial and domestic refrigeration and air conditioning; also oil burner experience. Has car and tools. Will go anywhere in U. S. if the job is year around. BOX 3389, Air Conditioning & Refrigeration News.

### POSITIONS AVAILABLE

MANUFACTURER'S REPRESENTATIVE wanted Virginia, North Carolina area. To establish dealers and distributors to handle the Federal complete line of refrigerated store fixtures. Latest design self-service models for every use. Give qualifications, references and other lines handled in reply. FEDERAL REFRIGERATOR MFG. CO., P. O. Box 465, Waukesha, Wisconsin.

SERVICE AND installation man. Must be thoroughly experienced refrigeration, air conditioning and automatic ice makers. York experience preferred but not essential. Permanent position for qualified man. Write fully of your experience. FIRST COLONY DISTRIBUTORS, INC., 310 S. Harrington Street, Raleigh, N. C.

SALES ENGINEER. Experienced commercial refrigeration sales engineer now making over \$5,000.00 yearly and wants to make more; capable selling refrigeration equipment, automatic ice makers, package and remote air conditioning. We are distributors for York and Hussmann in the rich central and eastern North Carolina territory. Write fully of your experience. FIRST COLONY DISTRIBUTORS, INC., 310 S. Harrington Street, Raleigh, N. C.

COMMISSION SALESMEN and manufacturer's representatives wanted to handle well-known line of freezers and milk coolers. Several territories are now open for aggressive salesmen who are acquainted with and can sell dealers, jobbers and distributors in their territories. Non-competitive lines can be handled simultaneously. Write stating experience and qualifications. EMIL STEINHORST & SONS, INC., Utica, New York.

### EQUIPMENT FOR SALE

WHOLESALE SEALED unit exchange and rebuilding. We will rebuild and convert your unit to "Freon-12." One year guarantee. Write for price list and shipping instructions. ADVANCE REFRIGERATION COMPANY, 829 East McNichols Road, Detroit 3, Michigan.

RECORDING THERMOMETERS. Electric 7 day remote -30° to plus 70°. Brand new. \$69.00 each. BIMEI CO., Cincinnati, Ohio.

SEVERAL 5 H.P. induction motors in original crates, 2 phase, 220/440 volts, 50/60 cycles, \$75.00 each. GENERAL REFRIGERATOR AND STORE FIXTURE CO., 856 N. Broad St., Philadelphia 30, Pa.

### SCHOOLS

DETROIT AIR Conditioning Institute is accepting applications for enrollment in spring term classes starting January 31, 1950. Fully GI approved courses in air conditioning, refrigeration, heating ventilation, sheet metal layout, heat pump engineering. Write for free information. DETROIT AIR CONDITIONING INSTITUTE, Dept. D, 4258 Woodward, Detroit, Michigan.

### MISCELLANEOUS

NORGE SEALED units remanufactured and exchanged. Immediate delivery from stock, 1 year guarantee. Write for prices and shipping instructions. Complete Norge engineering service. 22 years experience. MODERN REFRIGERATION CO., INC., 12541 E. McNichols Road, Detroit 5, Michigan.

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Receive the greatest trade paper in the Industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on household refrigeration, commercial refrigeration, air conditioning, home freezers; manufacturing, distributing, retailing, servicing, and contracting. Only \$5 per year, 52 issues.

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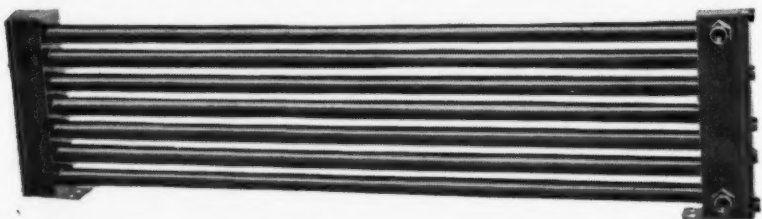
Company .....

Street .....

City ..... Zone ..... State .....

1-16-50

## CONDENSERS For Every Problem and Application ... WITH CLEANABLE WATER TUBES

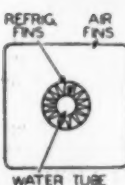


### WATER COOLED CONDENSER

● The Heat-X Water Cooled Condenser ... small in size and low in cost, equipped with internal fins for high efficiency ... is a popular condenser where ample low-cost water is available. It is ideal as a booster for existing air-cooled condensers. From 1/3 H.P. to 20 H.P.



### COMBINATION AIR and WATER COOLED CONDENSER



● Uses only air until air temperature rises above 80°F. Saves 94% of estimated water bill.

**THE HEAT-X-CHANGER CO., INC.**  
415 Lexington Avenue, New York 17, N. Y. Brewster, N. Y.



## 7 Admiral Models Have Full-Length Doors--

(Concluded from Page 1, Column 3)

banned by a \$15,000,000 advertising campaign in newspapers and magazines and on television.

The full-length door on the refrigerator was made possible, the company explained, "by elimination of the old vegetable or dry storage bin and utilization of every inch of refrigerator space for food storage."

Pointing out the compactness of the new models, Lee H. D. Baker, appliance vice president, said the 9.1-cu. ft. model measures only 4½ ft. high and a little over 2 ft. wide and deep. He added that the line would now be nationally-priced.

Other features of the line include a "non-warping" steel door, a new balloon-type rubber gasket seal, temperature controls allowing for 13 different settings, and a freezer drawer directly underneath the freezer chest.

This drawer, according to the company, holds an additional supply of frozen foods or ice cubes and, also, "in warm weather, can be lowered a notch to let the air circulate above it—thus providing more cold at a time when it is needed."

Newest improvement in the Dual-Temp models, the company said, "is their ability to maintain temperature of 20° below zero in the re-designed freezer compartment which holds from 72 to 84 lbs. of frozen food and 18 lbs. of ice cubes."

Data on the line:

Model	Cu. Ft.	Price
750 (Master)	7.0	\$189.95
760 (Deluxe)	7.0	214.95
960 (Master)	9.1	229.95
970 (Deluxe)	9.1	249.95
1160 (Master)	11.1	279.95
1170 (Deluxe)	11.1	299.95
1470 (Deluxe)	14.1	339.95
1090 (Dual-Temp)	10.6	399.95
1390 (Dual-Temp)	13.5	449.95

Frozen food capacities of the models were given as follows: models 750 and 760—27 lbs. in freezer chest, 12 lbs. in freezer drawer; models 960 and 970—37 lbs. in chest, 16 lbs. in drawer; models 1160 and 1170—60 lbs. in chest, 18 lbs. in drawer; model 1470—72 lbs. in chest, 21 in drawer.

Announced shelf areas are: Model 760—13.9 sq. ft.; models 960 and 970—17.4 sq. ft.; models 1160 and 1170—20.1 sq. ft.; model 1470—over 23 sq. ft.

Models 970, 1170, and 1470 are equipped with two storage drawers. The freezer drawer in model 1470 comes with a "Handi-Tray" of clear plastic for removing or storing food all at once.

Five different types of ranges are contained in this six-model line.

Admiral's new "flexo-heat" feature is incorporated in the two top models, T-2 and T-3. "Flexo-heat" controls are said to provide "unlimited selection of heat for surface units."

"Figure the amount of heat you want for a specific dish, spin the dial, and you've got it," the company stated.

There are two other developments in the "flexo-heat" line. First of these is the simplified automatic timer. Elaborating on this device, Admiral said:

"Instead of the clock dials and the 'set' device of older ranges, the new time consists of a series of push and pull buttons set 15 minutes apart around the face of the range clock."

"To start the oven, the deep-well cooker, or the appliance outlet of the range, all the homemaker has to do is pull out buttons for the starting time, say four o'clock, until the finishing time, six o'clock. At four, the range automatically goes on and cooks until the finishing time is reached. The buttons snap back into place once their time period is passed."

Second development is an electric barbecue spit which can be inserted into the oven.

"With the meat properly in place on the spit," the company explained, "a snap of a button starts the spit to turning and the 3,500-watt broiler unit to narrow its heat so that it works directly on the barbecue."

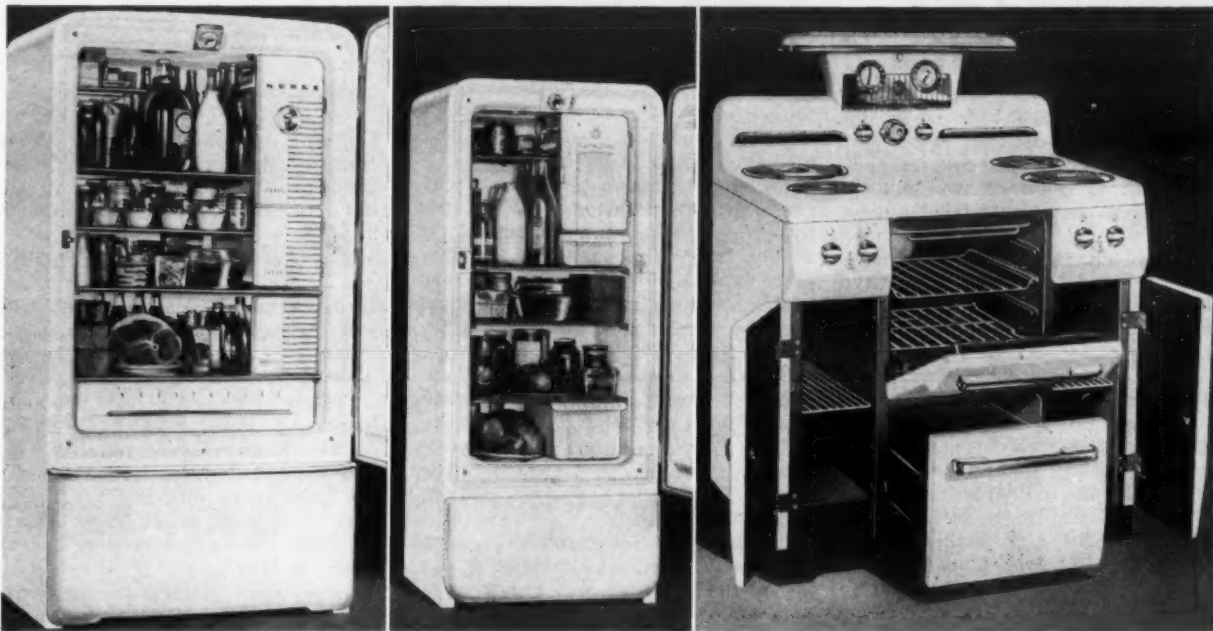
(The automatic rotary roaster and a deep-well pressure cooker are optional equipment for model T-2.)

Other highlight features of the T-3 are an interval timer and two ovens with automatic pre-heat. Each oven has a broiler and interior light. Additional features of the T-3 are interval timer, "pop-up" unit for deep-well or surface cooking, oven with automatic pre-heat and broiler, and three storage drawers and warmer.

Here are some of the features of the other models: 204—four surface units, full-size oven; 360—divided top, full-size oven, cabinet with shelves for storing utensils; T-1-2—two ovens, interval timer, two storage drawers; T-1—large oven, interval timer, three storage drawers and warmer, deep-well cooker. The rotary roaster is optional equipment for T-1-2 and T-1.

Retail prices are: 204, \$149.95; 360, \$169.95; T-1, \$249.95; T-1-2, \$299.95; T-2 (with "flexo-heat"), \$289.95; and T-3, \$349.95.

## Highlights of Norge's Record-Size Appliance Lineup



LEFT: Model SDF-105, the luxury refrigerator in Norge's new line has a capacity of 10.22 cu. ft. and a price of \$369.95. CENTER: Model S-65 has one of the smallest refrigerator capacities (6.08 cu. ft.) and lowest price (\$189.95). RIGHT: Model E-7 has top features of Norge range line.



LEFT: The "Coldpack" meat storage compartment is a feature of the SDF-85 and the SDF-105 refrigerators. CENTER: Freezer compartment in model SDF-85 refrigerator. RIGHT: Package shelf appears in refrigerator models SD-85 and S-105.

trimmed automatic timer, automatic oven, deep-well cooker, appliance outlet, and three utensil drawers. This is a promotion model which will be priced at \$199.95 for February only, according to present plans.

The Norge automatic washer has a number of mechanical improvements, and a new feature in a detachable front panel which will make it easier to service the sump and pump.

In the standard washer line a white, vinylite-coated agitator is a new feature in the 203 series. It resists discoloration, and has a smoother surface that results in longer clothes life. In the 202 series a new bakelite agitator is being introduced. Thus, the three series of wringer washers in 1950 are using three types of agitators, each having its own group of sales features.

Three new chest-type models—8 cu. ft., 15 cu. ft., and 23-cu. ft. sizes—have been added to the Norge freezer line. The 6-cu. ft. upright model remains in the line also.

Chest models have new interior styling, all-aluminum interior, storage-type baskets and permanent dividers, new hardware, and "Ethocel" throat lining in a blue shade. Built-in on all chest model freezers is a visual alarm system, which, in the event the temperature in the cabinet rises to 14° F., illuminates the machine compartment.

### Atlas Heating & A. C. Service Chartered in Arkansas

EL DORADO, Ark.—Atlas Heating & Air Conditioning Service Co., here, has obtained a charter from the secretary of state. Authorized capital stock is \$20,000.

Sarah H. Rainwater, Alvie D. Rainwater, Rex A. Barrow, Jr., and Rex A. Barrow, Sr., were listed as the incorporators.

## Norge Showing Includes 7 Refrigerators, 15 Ranges, and 4 Home Freezer Models

(Concluded from Page 1, Column 4)

gold-plated bezel and gold-plated numerals. On the Self-D-Froster super deluxe models there is a gold-plated escutcheon with a chrome-plated snap-action door latch.

New convenience features have been added to the line, and previous Norge features have been improved. For example, the Self-D-Froster system has been redesigned and improved with an adjustable defrosting control. In most models, shelf areas have been increased to provide maximum storage flexibility and provision has been made for storing large quantities of frozen foods and ice cubes.

The two introductory models in the 65 series have been designed to provide maximum storage capacity. Wide spacings between the two full-width shelves permit the storing of large, bulky items such as a turkey, half a watermelon, or a full gallon bottle. The Norge "Super-Ten" model also provides for storing bulky items. This model has a removable insert shelf which provides room for storing unusually large items.

Super deluxe models have dual safety-sealed freezer chests. All series 85 and 105 models have spacious tiltabins for storage of extra supplies of canned and bottled goods, and all Self-D-Froster models have full-width hydrovoirs.

In the SDF series the dual freezer chests (one for frozen foods, one for ice cubes and frozen desserts), and the "Coldpack" for meat storage are placed one over the other down the side of the cabinet liner in a convenient and space-providing arrangement.

Prices on the refrigerator line are as follows:

Model	Size	Price
S-65	6.08	\$189.95
SD-65	6.08	219.95
S-85	8.18	229.95
SD-85	8.27	279.95
SDF-85	8.16	299.95
S-105	10.36	299.95
SDF-105	10.22	369.95

The Norge range line includes the apartment-size 20-in. models with three or four surface units, as desired; seven-speed switches, broiler, oven control, appliance outlet, and utility drawer. Model E-3 is a full-size range with a deep-well cooker, and Norge range line features. A clock timer and lamp assembly is available on this and the apartment house models as an accessory.

Model E-4 is in the same general style, but with automatic appliance

outlet and oven control a standard feature. Family size oven has automatic oven light and smokeless broiler grille. Model E-5 has a center work area between the surface units, a large lamp package with fluorescent light and chrome trimmed shade, electric "Minit Master," two large storage compartments and large storage drawer, and blended heat oven. Model E-6 has the same features but a top cluster arrangement of the surface units.

Model E-7 is of the center work area style, and has the top features of the Norge range line. Among these are the selector switch for automatic operation of the oven, Hi-Lo unit, deep-well cooker, or appliance outlet; the "safetee" switch to prevent children from accidentally turning on the surface units; automatic timer, and "minit-master," and blended oven heat.

Also in the line is model PE-25 with full-width lamp package with two fluorescent lamps and chrome-

## Sales Representatives Wanted

by manufacturers of the most revolutionary gas fired hot water boiler the heating and air conditioning industry has ever seen

PROVEN acceptance through field marketing tests shows this unit the ideal companion piece to make the packaged unit the year round installation.

NOT NEW—thousands installed (and still in use) over past 18 years. Production thus far confined to western markets. We are now "going national." The men we need are in the air conditioning and heating industry, possibly connected with supply firms, but with limited future or income prospects.

OUR DISTRIBUTION PLANNING will open the door to greater earnings and provide greater advancement possibilities. The men we are seeking should be in their forties, but capacity to handle the job and ambition to advance are prime requirements. Engineering background desirable, but ability to sell and work through dealers necessary. We want to hear from men in all principal U. S. marketing areas, so write us in complete confidence giving full details of background, age, bondability and where you can be contacted.

We will arrange for interviews in your city during the coming few weeks.

Write to: R. J. Mealey, 940 Dwight Way, Berkeley 10, Calif.



Elimination of the storage bin at the bottom of this new Admiral apartment house refrigerator gives the unit a capacity of 9.1 cu. ft. in a cabinet measuring 4½ ft. high and a little over 2 ft. wide and deep. Its full-width freezer holds 37 lbs. while the drawer below the freezer holds an additional 16 lbs.



A rotating spit is a feature of the 1950 Admiral electric range line. The spit sits in a motor-driven socket in the rear of the oven. The 3,500-watt broiler concentrates heat directly on the roast.



No factory-set speeds or stops are incorporated in the temperature dials on the new Admiral range. Another feature is the push-button timer. To start or stop the range at any given time push the button opposite the proper time.



## Steel Shortage Delays Introduction of 2 New Ranges by Westinghouse

NEW YORK CITY—Because of inadequate steel supplies, Westinghouse Electric Corp. has been forced to delay introduction of two deluxe model ranges until the second quarter of the year, J. H. Ashbaugh, vice president in charge of the appliance division, declared during a company meeting here recently.

Ashbaugh said that Westinghouse was concentrating its range production on the lower price model ranges. Emphasis is also being placed on the lower priced units in other major appliances, although the deluxe models are being turned out on a limited scale, he indicated.

He blamed the steel strike and the unexpectedly high level of demand during the last half of 1949 for the company's present short supply of steel.

J. R. Clemens, advertising manager for the appliance division, reported that Westinghouse plans to spend \$8,000,000 on appliance advertising this year, emphasizing the new "knee-hole" range, frost-free refrigerator, and automatic dishwasher.

Refrigerator promotion will start on Feb. 15 and range promotion in March, he declared.

## Heat Pump Meeting--

(Concluded from Page 1, Column 5)

South by Guy C. Hall, air conditioning engineer for the Florida Power Co.

Design engineer's viewpoint of the heat pump by W. B. Hawkins of Reynolds Smith & Hills, here.

How to sell a heat pump by Hugh A. Moore, sales manager of W. W. McMillan & Co., Marvair distributor here.

How to install a heat pump by George W. Brown, mechanical engineer.

What the power companies are doing to promote the heat pump by W. B. Shenk, director of commercial development, Florida Power Co.

What one manufacturer is doing to develop the heat pump and why other manufacturers will be forced to manufacture heat pumps by Marvin M. Smith, vice president of the Muncie (Ind.) Gear Works, Inc.

Wire recording of satisfied users in Jacksonville.

Sales promotion and distribution of Marvair by W. W. McMillan.

## Fuller Appliance Chartered

GREENVILLE, S. C.—Fred A. Fuller Appliances, Inc., here, has obtained a charter from the secretary of state.

## Servel To Increase Advertising Budget And Production Schedule for 1950

CHICAGO—Substantial retail price reductions, greatly expanded advertising expenditures, production schedule increases, a large distributive organization increase, plus large scale gas utility cooperation were all cited by W. Paul Jones, president of Servel, Inc., as reasons why the company expects 50% more sales in 1950.

These optimistic statements by Servel's president were made to more than 600 distributors, gas utility executives, and Servel management meeting at the Edgewater Beach hotel here.

"For Servel and practically every company in the appliance industry the year 1949 was a year of awakening," Jones said.

"A slipping sales graph has pointed toward the need for the type of daring planning which will result in increased sales during 1950.

"In spite of rising costs for steel and other basic commodities from which the Servel gas refrigerator is manufactured we are substantially reducing prices on all of our new models."

### PUBLIC SHOWING JAN. 20

The meeting was a "sneak preview" of the new line for Servel distributors. Servel sales executives announced that the new completely redesigned line of household refrigerators and their prices will be released to the general public on Jan. 20.

In outlining the company's 1950 plans Jones announced a greatly expanded advertising plan for Servel. Advertising expenditures are scheduled for increases of from 50 to 100%. The national magazine advertising schedule will remain at the high level of 1949 and the large increase will be felt at the local level in newspapers and some other promotional media which qualify under Servel's cooperative advertising program for distributors and dealers. Although gas utility companies, who have long been Servel's chief means of distribution, will continue in their present function, Jones outlined plans to set up sales allies with many more dealers to supplement the utilities' distribution in certain areas.

In addition to Servel's promotional efforts the campaign in behalf of gas refrigeration sales will receive a large impetus through the activities of the American Gas Association, the trade association of gas utility companies.

### AGA WILL GO TO BAT

"For the first time," Jones said, "the American Gas Association will make a full scale advertising and promotion drive for the use of do-

mestic household gas refrigeration.

"A portion of their national advertising campaign will be directed toward refrigeration sales. This expenditure, moreover, will be in addition to Servel's increased advertising."

A production schedule has been put into operation at the company's 70-acre plant in Evansville, Ind., which will increase the number of gas refrigerators available for sale by more than 50%.

"In announcing the 50% production increase," Jones said, "we feel that on the basis of our reduced prices and expanded promotional effort we are being very modest. We fully expect in a very short space of time to raise 1950's production schedule much higher."

Jones also pointed to the expansion of natural gas facilities as one of the basic reasons for the company's renewed activities.

"Since shortly before the war," he said, "more than 11,000,000 additional American families have had natural gas service made available for their use.

"Cost of natural gas to consumers is more favorable than ever in relation to competitive fuels. Also natural gas reserves have increased greatly in the last 10 years.

"Discoveries of new gas fields in the past few years have added more than 20 years to our reserve supplies based on our present high rate of consumption."

## Recirculating Water--

(Concluded from Page 1, Column 5)

capacity—are affected by the revised regulations, he declared. Carney, who is faced with a continuing shortage of water in the city, said, "While under the new rules, we cannot forbid the use of existing units using up to 50 g.p.m., we hope to persuade owners that it will be to their advantage to convert to the recirculating types as soon as possible.

"The cost incurred by such conversion will be offset by their metered water savings over two or three years."

The new rules provide that existing equipment shall be provided with an automatic supply regulating device limiting the flow of water in relation to the condenser temperature reduction requirements.

In no case shall the equipment use more than 2 g.p.m. per ton capacity.

## Kold-Draft To Present Its New Products at February Sales Meeting

ERIE, Pa.—The two-day annual Kold-Draft national sales convention will be staged at the factory Monday and Tuesday, Feb. 6 and 7, by Uni-flow Mfg. Co., announces C. A. Kuebler, president of the firm.

Two full days of activities are planned for the salesmen and distributors who will attend. Presentation of new products, as well as improved sales methods and sales promotion practices are on the docket for this convention.

Special events include a cocktail party on Sunday evening for those who arrive early, and the annual convention banquet Monday evening, which will be preceded and followed by a cocktail party.

## Over 500 Exhibit at Opening of Housewares Show

CHICAGO — The 12th National Housewares and Home Appliance Exhibit opens its doors at Navy Pier here Jan. 19. The mammoth show will run through Jan. 26, but will not be open Sunday, Jan. 22.

On display in the 150,000 sq. ft. of exhibit space will be thousands of lines of new merchandise from the factories of more than 500 manufacturers. Buyer attendance is expected to total 10,000. Show hours will be from 9 a.m. to 5 p.m.

A daily shuttle bus service will be in operation during the show to make it easy for visitors to get to and

from Navy Pier and the loop hotels.

Among the many manufacturers who have space are Berns Mfg. Corp.; Brewer-Titchener Corp.; Chicago Electric Mfg. Co.; Electric Steam Radiator Co.; Emerson Electric Mfg. Co.; Fasco Industries, Inc.; Fresh'nd-Aire Co.; General Electric Co.; Hamilton Mfg. Corp.; Hutzler Mfg. Co.; Kisco Co., Inc.; Kitchen Aid Div. (Hobart Mfg. Co.); Landers, Frary & Clark; Naxon Utilities Corp.; Paragon Electric Co.; Plastray Corp.; Sperti-Faraday, Inc.; Taylor Instrument Cos.; and Westinghouse Electric Corp.

*it's a fact!*

## MORE and MORE Air Conditioning Dealers are *Tying Up* with TYPHOON

It's a fact, too — that Typhoon brings its dealers the world's most complete line of air conditioners... in the most popular, "quick-profit" size range.

**NOW** a Typhoon size for every prospect... 1½-2-3-5-7½-10-15-20-ton packaged, free-standing units and evaporative condensers.

*Repeat this ad - more times ever in 1950!*



1909 1949

**TYPHOON AIR CONDITIONING CO., INC.**  
794 UNION STREET • BROOKLYN 15, N. Y.

## Not... How Big But How Sound

Bigness is no criterion of strength. A business is strong only to the degree that its whole structure is sound. We have said before and we repeat it again—we would rather operate conservatively and soundly than strive for undue bigness with its attendant penalties. Recent events have vindicated the wisdom of such a policy.

Seventeen years ago this advertisement appeared in the News. Today Universal Cooler believes in the same high principles and operates on the same ethical policy.

**UNIVERSAL COOLER**  
DIVISION NEWPORT STEEL CORPORATION  
Marion, Ohio